Managerial Accounting for Managers 4th edition Noreen Test Bank

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Chapter 02

Managerial Accounting and Cost Concepts

True / False Questions

1. Selling costs can be either direct or indirect costs.

   True False

2. A direct cost is a cost that cannot be easily traced to the particular cost object under consideration.

   True False

3. Property taxes and insurance premiums paid on a factory building are examples of period costs.

   True False

4. Conversion cost equals product cost less direct labor cost.

   True False

5. Thread that is used in the production of mattresses is an indirect material that is therefore classified as manufacturing overhead.

   True False

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6. Direct labor is a part of prime cost, but not conversion cost.

True False

7. Conversion cost is the sum of direct labor cost and direct materials cost.

True False

8. Direct material costs are generally fixed costs.

True False

9. Product costs are recorded as expenses in the period in which the related products are sold.

True False

10. Depreciation on manufacturing equipment is a product cost.

True False

11. Manufacturing salaries and wages incurred in the factory are period costs.

True False

12. Depreciation on office equipment would be included in product costs.

True False

13. Rent on a factory building used in the production process would be classified as a product cost and as a fixed cost.

True False

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14. A fixed cost remains constant if expressed on a unit basis.

True False

15. Total variable cost is expected to remain unchanged as activity changes within the relevant range.

True False

16. Country Charm Restaurant is open 24 hours a day and always has a fire going in the fireplace in the middle of its dining area. The cost of the firewood for this fire is fixed with respect to the number of meals served at the restaurant.

True False

17. Committed fixed costs represent organizational investments with a multi-year planning horizon that can't be significantly reduced even for short periods.

True False

18. Commissions paid to salespersons are a variable selling expense.

True False

19. Variable costs are costs that vary, in total, in direct proportion to changes in the volume or level of activity.

True False

20. The planning horizon for a committed fixed cost usually encompasses many years.

True False

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21. Cost behavior is considered linear whenever a straight line is a reasonable approximation for the relation between cost and activity.

True False

22. The high-low method uses cost and activity data from just two periods to establish the formula for a mixed cost.

True False

23. The engineering approach to the analysis of mixed costs involves a detailed analysis of what cost behavior should be, based on an industrial engineer's evaluation of the production methods to be used, the materials specifications, labor requirements, equipment usage, production efficiency, power consumption, and so on.

True False

24. The contribution margin is the amount remaining from sales revenues after variable expenses have been deducted.

True False

25. A contribution format income statement for a merchandising company organizes costs into two categories—cost of goods sold and selling and administrative expenses.

True False

26. The traditional format income statement provides managers with an income statement that clearly distinguishes between fixed and variable costs and therefore aids planning, control, and decision making.

True False

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27. In a contribution format income statement, the gross margin minus selling and administrative expenses equals net operating income.

True False

28. A traditional format income statement organizes costs on the basis of behavior.

True False

29. In a traditional format income statement for a merchandising company, the selling and administrative expenses report all period costs that have been expensed as incurred.

True False

30. The contribution format is widely used for preparing external financial statements.

True False

31. Contribution margin equals revenue minus all fixed costs.

True False

32. The potential benefit that is given up when one alternative is selected over another is called an opportunity cost.

True False

33. A cost that differs from one month to another is known as a differential cost.

True False

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Multiple Choice Questions

34. The nursing station on the fourth floor of Central Hospital is responsible for the care of orthopedic surgery patients. The costs of prescription drugs administered by the nursing station to patients should be classified as:

A. direct patient costs.

B. indirect patient costs.

C. overhead costs of the nursing station.

D. period costs of the hospital.

35. All of the following costs would be found in a company's accounting records except:

A. sunk cost.

B. opportunity cost.

C. indirect costs.

D. direct costs.

36. The costs of the Accounting Department at Central Hospital would be considered by the Surgery Department to be:

A. direct costs.

B. indirect costs.

C. incremental costs.

D. opportunity costs.

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37. Which of the following is classified as a direct labor cost?

	Wages of assembly-line workers	Wages of a factory supervisor
A)	No	No
B)	Yes	Yes
C)	No	Yes
D)	Yes	No

A. Option A

B. Option B

C. Option C

D. Option D

38. In a manufacturing company, direct labor costs combined with direct materials costs are known as:

A. period costs.

B. conversion costs.

C. prime costs.

D. opportunity costs.

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39. The property taxes on a factory building would be an example of:

	Prime Cost	Conversion Cost
A)	No	Yes
B)	Yes	No
C)	Yes	Yes
D)	No	No

A. Option A

B. Option B

C. Option C

D. Option D

40. Which of the following would most likely be included as part of manufacturing overhead in the production of a wooden table?

A. The amount paid to the individual who stains the table.

B. The commission paid to the salesperson who sold the table.

C. The cost of glue used in the table.

D. The cost of the wood used in the table.

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41. Property taxes on a manufacturing facility are classified as:

	Conversion cost	Period cost
A)	Yes	No
B)	Yes	Yes
C)	No	Yes
D)	No	No

A. Option A

B. Option B

C. Option C

D. Option D

42. Indirect labor is a(n):

A. Prime cost.

B. Conversion cost.

C. Period cost.

D. Opportunity cost.

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43. The salary paid to the maintenance supervisor in a manufacturing plant is an example of:

	Product Cost	Manufacturing Overhead
A)	No	Yes
B)	Yes	No
C)	Yes	Yes
D)	No	No

A. Option A

B. Option B

C. Option C

D. Option D

44. All of the following would be classified as product costs except:

A. property taxes on production equipment.

B. insurance on factory machinery.

C. salaries of the marketing staff.

D. wages of machine operators.

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45. The cost of direct materials cost is classified as a:

	Period cost	Product cost
A)	Yes	Yes
B)	No	No
C)	Yes	No
D)	No	Yes

A. Option A

B. Option B

C. Option C

D. Option D

46. Which of the following costs is classified as a prime cost?

	Direct materials	Indirect materials
A)	Yes	Yes
B)	No	No
C)	Yes	No
D)	No	Yes

A. Option A

B. Option B

C. Option C

D. Option D

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47. Inventoriable costs are also known as:

A. variable costs.

B. conversion costs.

C. product costs.

D. fixed costs.

48. Fresh Wreath Corporation manufactures wreaths according to customer specifications and ships them to customers using United Parcel Service (UPS). Which two terms below describe the cost of shipping these wreaths?

A. variable cost and product cost

B. variable cost and period cost

C. fixed cost and product cost

D. fixed cost and period cost

49. If the level of activity increases within the relevant range:

A. variable cost per unit and total fixed costs also increase.

B. fixed cost per unit and total variable cost also increase.

C. total cost will increase and fixed cost per unit will decrease.

D. variable cost per unit and total cost also increase.

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50. Within the relevant range:

A. variable cost per unit decreases as production decreases.

B. fixed cost per unit increases as production decreases.

C. fixed cost per unit decreases as production decreases.

D. variable cost per unit increases as production decreases.

51. Discretionary fixed costs:

A. have a planning horizon that covers many years.

B. may be reduced for short periods of time with minimal damage to the long-run goals of the organization.

C. cannot be reduced for even short periods of time without making fundamental changes.

D. are most effectively controlled through the effective utilization of facilities and organization.

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52. When the activity level declines within the relevant range, what should happen with respect to the following?

	Fixed cost per unit	Variable cost per unit
A)	No change	Increase
B)	Increase	Increase
C)	Increase	No change
D)	No change	No change

A. Option A

B. Option B

C. Option C

D. Option D

53. Stott Company requires one full-time dock hand for every 500 packages loaded daily. The wages for these dock hands would be:

A. variable.

B. mixed.

C. step-variable.

D. curvilinear.

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54. When the level of activity decreases, variable costs will:

A. increase per unit.

B. increase in total.

C. decrease in total.

D. decrease per unit.

55. Data for Cost A and Cost B appear below:

Units Produced	Cost Per Unit	Total Cost
Cost A		
1	?	$10
10	?	$100
100	?	$1,000
1,000	?	$10,000
Cost B		
1	$5,000	?
10	$500	?
100	$50	?
1,000	$5	?

Which of the above best describes the behavior of Costs A and B?

A. Cost A is fixed, Cost B is variable.

B. Cost A is variable, Cost B is fixed.

C. Both Cost A and Cost B are variable.

D. Both Cost A and Cost B are fixed.

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56. Which of the following companies would have the highest proportion of variable costs in its cost structure?

A. Public utility.

B. Airline.

C. Fast food outlet.

D. Architectural firm.

57. An example of a discretionary fixed cost would be:

A. taxes on the factory.

B. depreciation on manufacturing equipment.

C. insurance.

D. research and development.

58. For planning, control, and decision-making purposes:

A. fixed costs should be converted to a per unit basis.

B. discretionary fixed costs should be eliminated.

C. variable costs should be ignored.

D. mixed costs should be separated into their variable and fixed components.

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59. Which of the following costs, if expressed on a per unit basis, would be expected to decrease as the level of production and sales increases?

A. Sales commissions.

B. Fixed manufacturing overhead.

C. Variable manufacturing overhead.

D. Direct materials.

60. In describing the cost equation, Y = a + bX, "a" is:

A. the dependent variable cost.

B. the independent variable the level of activity.

C. the total fixed cost.

D. the variable cost per unit of activity.

61. Which of the following is an example of a cost that is variable with respect to the number of units produced?

A. Rent on the administrative office building.

B. Rent on the factory building.

C. Direct labor cost, where the direct labor workforce is adjusted to the actual production of the period.

D. Salaries of top marketing executives.

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62. Contribution margin means:

A. what remains from total sales after deducting fixed expenses.

B. what remains from total sales after deducting cost of goods sold.

C. the sum of cost of goods sold and variable expenses.

D. what remains from total sales after deducting all variable expenses.

63. The _____ is the amount remaining from sales revenue after all variable expenses have been deducted.

A. cost structure

B. gross margin

C. contribution margin

D. committed fixed cost

64. A sunk cost is:

A. a cost which may be saved by not adopting an alternative.

B. a cost which may be shifted to the future with little or no effect on current operations.

C. a cost which cannot be avoided because it has already been incurred.

D. a cost which does not entail any dollar outlay but which is relevant to the decision-making process.

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65. The cost of factory machinery purchased last year is:

A. an opportunity cost.

B. a differential cost.

C. a direct materials cost.

D. a sunk cost.

66. Abbott Company's manufacturing overhead is 20% of its total conversion costs. If direct labor is $38,000 and if direct materials are $23,000, the manufacturing overhead is:

A. $9,500

B. $152,000

C. $5,750

D. $15,250

67. During the month of April, direct labor cost totaled $15,000 and direct labor cost was 30% of prime cost. If total manufacturing costs during April were $79,000, the manufacturing overhead was:

A. $35,000

B. $29,000

C. $50,000

D. $129,000

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68. In April direct labor was 70% of conversion cost. If the manufacturing overhead for the month was $42,000 and the direct materials cost was $28,000, the direct labor cost was:

A. $98,000

B. $65,333

C. $18,000

D. $12,000

69. A manufacturing company prepays its insurance coverage for a three-year period. The premium for the three years is $2,400 and is paid at the beginning of the first year. Seventy percent of the premium applies to manufacturing operations and thirty percent applies to selling and administrative activities. What amounts should be considered product and period costs respectively for the first year of coverage?

	Product	Period
A)	$800	$0
B)	$0	$800
C)	$560	$240
D)	$240	$560

A. Option A

B. Option B

C. Option C

D. Option D

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70. The following costs were incurred in April:

Direct materials	$18,000
Direct labor	$21,000
Manufacturing overhead	$33,000
Selling expenses	$14,000
Administrative expenses	$19,000

Conversion costs during the month totaled:

A. $39,000

B. $54,000

C. $105,000

D. $51,000

71. The following costs were incurred in April:

Direct materials	$29,000
Direct labor	$24,000
Manufacturing overhead	$14,000
Selling expenses	$18,000
Administrative expenses	$18,000

Prime costs during the month totaled:

A. $53,000

B. $67,000

C. $38,000

D. $103,000

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72. At a volume of 8,000 units, Pwerson Company incurred $32,000 in factory overhead costs, including $12,000 in fixed costs. If volume increases to 9,000 units and both 8,000 units and 9,000 units are within the relevant range, then the company would expect to incur total factory overhead costs of:

A. $22,500

B. $32,000

C. $34,500

D. $20,000

73. The following data pertains to activity and costs for two months:

	June	July
Activity level in units	10,000	12,000
Direct materials	$16,000	$?
Fixed factory rent	12,000	?
Manufacturing overhead	10,000	?
Total cost	$38,000	$42,900

Assuming that these activity levels are within the relevant range, the manufacturing overhead for July was:

A. $10,000

B. $11,700

C. $19,000

D. $9,300

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74. At an activity level of 4,000 machine-hours in a month, Curt Corporation's total variable production engineering cost is $154,200 and its total fixed production engineering cost is $129,000. What would be the total production engineering cost per unit, both fixed and variable, at an activity level of 4,300 machine-hours in a month? Assume that this level of activity is within the relevant range.

A. $68.33

B. $68.55

C. $70.80

D. $65.86

75. Ricwy Corporation uses the cost formula Y = $4,800 + $0.40X for the maintenance cost, where X is machine-hours. The August budget is based on 9,000 hours of planned machine time. Maintenance cost expected to be incurred during August is:

A. $4,800

B. $3,600

C. $8,400

D. $1,200

76. Given the cost formula Y = $18,000 + $6X, total cost at an activity level of 9,000 units would be:

A. $72,000

B. $18,000

C. $36,000

D. $54,000

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77. At an activity level of 6,900 units in a month, Zelinski Corporation's total variable maintenance and repair cost is $408,756 and its total fixed maintenance and repair cost is $230,253. What would be the total maintenance and repair cost, both fixed and variable, at an activity level of 7,100 units in a month? Assume that this level of activity is within the relevant range.

A. $648,270

B. $639,009

C. $650,857

D. $657,531

78. Given the cost formula, Y = $7,000 + $1.80X, total cost for an activity level of 4,000 units would be:

A. $7,000

B. $200

C. $7,200

D. $14,200

79. Kaelker Corporation reports that at an activity level of 7,000 units, its total variable cost is $590,730 and its total fixed cost is $372,750. What would be the total cost, both fixed and variable, at an activity level of 7,100 units? Assume that this level of activity is within the relevant range.

A. $963,480

B. $977,244

C. $971,919

D. $970,362

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80. Eddy Corporation has provided the following production and total cost data for two levels of monthly production volume. The company produces a single product.

Production volume	6,000 units	7,000 units
Direct materials	$582,600	$679,700
Direct labor	$136,200	$158,900
Manufacturing overhead	$691,800	$714,700

The best estimate of the total variable manufacturing cost per unit is:

A. $22.90

B. $119.80

C. $142.70

D. $97.10

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81. Cardiv Corporation has provided the following production and average cost data for two levels of monthly production volume. The company produces a single product.

Production volume	4,000 units	5,000 units
Direct materials	$85.80 per unit	$85.80 per unit
Direct labor	$56.10 per unit	$56.10 per unit
Manufacturing overhead	$73.60 per unit	$62.10 per unit

The best estimate of the total cost to manufacture 4,300 units is closest to:

A. $877,200

B. $909,400

C. $901,925

D. $926,650

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82. Harris Corporation is a wholesaler that sells a single product. Management has provided the following cost data for two levels of monthly sales volume. The company sells the product for $84.40 per unit.

Sales volume (units)	5,000	6,000
Cost of sales	$285,000	$342,000
Selling and administrative costs	$107,500	$120,000

The best estimate of the total variable cost per unit is:

A. $77.00

B. $57.00

C. $69.50

D. $78.50

83. Werner Brothers, Inc., used the high-low method to derive its cost formula for electrical power cost. According to the cost formula, the variable cost per unit of activity is $2 per machine-hour. Total electrical power cost at the high level of activity was $9,400 and at the low level of activity was $9,000. If the high level of activity was 2,200 machine hours, then the low level of activity was:

A. 1,800 machine hours

B. 1,900 machine hours

C. 2,000 machine hours

D. 1,700 machine hours

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84. Davis Corporation has provided the following production and total cost data for two levels of monthly production volume. The company produces a single product.

Production volume	1,000 units	2,000 units
Direct materials	$44,200	$88,400
Direct labor	$37,300	$74,600
Manufacturing overhead	$48,500	$62,200

The best estimate of the total monthly fixed manufacturing cost is:

A. $130,000

B. $177,600

C. $34,800

D. $225,200

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85. Anderson Corporation has provided the following production and average cost data for two levels of monthly production volume. The company produces a single product.

Production volume	4,000 units	5,000 units
Direct materials	$99.20 per unit	$99.20 per unit
Direct labor	$45.50 per unit	$45.50 per unit
Manufacturing overhead	$94.00 per unit	$77.60 per unit

The best estimate of the total monthly fixed manufacturing cost is:

A. $388,000

B. $954,800

C. $376,000

D. $328,000

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86. Farmington Corporation has provided the following production and total cost data for two levels of monthly production volume. The company produces a single product.

Production volume	6,000 units	7,000 units
Direct materials	$195,000	$227,500
Direct labor	$113,400	$132,300
Manufacturing overhead	$913,200	$931,700

The best estimate of the total cost to manufacture 6,300 units is closest to:

A. $1,162,350

B. $1,242,570

C. $1,222,515

D. $1,282,680

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87. Baker Corporation has provided the following production and average cost data for two levels of monthly production volume. The company produces a single product.

Production volume	1,000 units	3,000 units
Direct materials	$30.90 per unit	$30.90 per unit
Direct labor	$40.20 per unit	$40.20 per unit
Manufacturing overhead	$64.60 per unit	$33.80 per unit

The best estimate of the total variable manufacturing cost per unit is:

A. $89.50

B. $18.40

C. $71.10

D. $30.90

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88. Gambino Corporation is a wholesaler that sells a single product. Management has provided the following cost data for two levels of monthly sales volume. The company sells the product for $138.80 per unit.

Sales volume (units)	6,000	7,000
Cost of sales	$369,000	$430,500
Selling and administrative costs	$407,400	$418,600

The best estimate of the total monthly fixed cost is:

A. $776,400

B. $340,200

C. $812,750

D. $849,100

89. Iaci Corporation is a wholesaler that sells a single product. Management has provided the following cost data for two levels of monthly sales volume. The company sells the product for $133.60 per unit.

Sales volume (units)	4,000	5,000
Cost of sales	$383,600	$479,500
Selling and administrative costs	$124,400	$136,000

The best estimate of the total contribution margin when 4,300 units are sold is:

A. $112,230

B. $162,110

C. $28,380

D. $45,150

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90. Maintenance costs at a Whetsel Corporation factory are listed below:

	Machine-Hours	Maintenance Cost
March	3,135	$48,340
April	3,095	$47,993
May	3,133	$48,345
June	3,157	$48,548
July	3,065	$47,733
August	3,076	$47,830
September	3,084	$47,880
October	3,125	$48,247
November	3,098	$48,014

Management believes that maintenance cost is a mixed cost that depends on machine-hours. Use the high-low method to estimate the variable and fixed components of this cost. Compute the variable component first and round off to the nearest whole cent. Compute the fixed component second and round off to the nearest whole dollar. These estimates would be closest to:

A. $8.86 per machine-hour; $20,577 per month

B. $0.11 per machine-hour; $48,192 per month

C. $15.48 per machine-hour; $48,103 per month

D. $8.81 per machine-hour; $20,718 per month

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91. The following data pertains to activity and utility cost for two recent periods:

Activity level (units)	8,000	5,000
Utility cost	$8,000	$6,150

Utility cost is a mixed cost with both fixed and variable components. Using the high-low method, the cost formula for utility cost is:

A. Y = $1.00 X

B. Y = $1.25 X

C. Y = $4,000 + $0.50 X

D. Y = $1,500 + $1.25 X

92. The following data pertains to activity and maintenance cost for two recent periods:

Activity level (units)	5,000	4,000
Maintenance cost	$16,750	$15,000

Maintenance cost is a mixed cost with both fixed and variable components. Using the high-low method, the cost formula for maintenance cost is:

A. Y = $8,000 + $1.75 X

B. Y = $3.75 X

C. Y = $1,750 + $3.35 X

D. Y = $3.35 X

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Managerial Accounting for Managers 4th edition Noreen Test Bank

93. Electrical costs at one of Kantola Corporation's factories are listed below:

	Machine-Hours	Electrical Cost
February	3,570	$36,405
March	3,580	$36,493
April	3,553	$36,302
May	3,627	$36,833
June	3,625	$36,800
July	3,565	$36,366
August	3,548	$36,237
September	3,542	$36,213
October	3,593	$36,577

Management believes that electrical cost is a mixed cost that depends on machine-hours. Use the high-low method to estimate the variable and fixed components of this cost. Compute the variable component first, rounding off to the nearest whole cent. Then compute the fixed component, rounding off to the nearest whole dollar. Those estimates are closest to:

A. $0.14 per machine-hour; $36,336 per month

B. $10.19 per machine-hour; $36,470 per month

C. $7.48 per machine-hour; $9,708 per month

D. $7.29 per machine-hour; $10,392 per month

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94. Oaklis Company has provided the following data for maintenance cost:

	Prior Year	Current Year
Machine hours	10,000	12,000
Maintenance cost	$24,000	$27,600

Maintenance cost is a mixed cost with variable and fixed components. The fixed and variable components of maintenance cost are closest to:

A. $24,000 per year; $2.30 per machine hour

B. $6,000 per year; $1.80 per machine hour

C. $6,000 per year; $2.30 per machine hour

D. $24,000 per year; $1.80 per machine hour

95. A soft drink bottler incurred the following factory utility cost: $3,936 for 800 cases bottled and $3,988 for 900 cases bottled. Factory utility cost is a mixed cost containing both fixed and variable components. The variable factory utility cost per case bottled is closest to:

A. $4.92

B. $0.52

C. $4.43

D. $4.66

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96. Supply costs at Chobot Corporation's chain of gyms are listed below:

	Client-Visits	Supply Cost
January	12,183	$26,642
February	12,408	$26,853
March	12,232	$26,675
April	12,597	$27,054
May	12,527	$26,988
June	12,608	$27,064
July	12,143	$26,585
August	12,005	$26,454
September	11,944	$26,393

Management believes that supply cost is a mixed cost that depends on client-visits. Use the high-low method to estimate the variable and fixed components of this cost. Compute the variable component first, rounding off to the nearest whole cent. Then compute the fixed component, rounding off to the nearest whole dollar. Those estimates are closest to:

A. $2.18 per client-visit; $26,745 per month

B. $1.01 per client-visit; $14,330 per month

C. $1.04 per client-visit; $13,949 per month

D. $0.99 per client-visit; $14,607 per month

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97. Gabat Inc. is a merchandising company. Last month the company's merchandise purchases totaled $67,000. The company's beginning merchandise inventory was $19,000 and its ending merchandise inventory was $22,000. What was the company's cost of goods sold for the month?

A. $108,000

B. $67,000

C. $64,000

D. $70,000

98. Haab Inc. is a merchandising company. Last month the company's cost of goods sold was $66,000. The company's beginning merchandise inventory was $17,000 and its ending merchandise inventory was $11,000. What was the total amount of the company's merchandise purchases for the month?

A. $72,000

B. $66,000

C. $94,000

D. $60,000

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99. The following cost data pertain to the operations of Rademaker Department Stores, Inc., for the month of March.

Corporate headquarters building lease	$80,000
Cosmetics Department sales commissions-Northridge Store	$7,000
Corporate legal office salaries	$75,000
Store manager's salary-Northridge Store	$11,000
Heating-Northridge Store	$11,000
Cosmetics Department cost of sales-Northridge Store	$83,000
Central warehouse lease cost	$17,000
Store security-Northridge Store	$11,000
Cosmetics Department manager's salary-Northridge Store	$4,000

The Northridge Store is just one of many stores owned and operated by the company. The Cosmetics Department is one of many departments at the Northridge Store. The central warehouse serves all of the company's stores.

What is the total amount of the costs listed above that are direct costs of the Cosmetics Department?

A. $83,000

B. $94,000

C. $90,000

D. $127,000

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100. The following cost data pertain to the operations of Rademaker Department Stores, Inc., for the month of March.

Corporate headquarters building lease	$80,000
Cosmetics Department sales commissions-Northridge Store	$7,000
Corporate legal office salaries	$75,000
Store manager's salary-Northridge Store	$11,000
Heating-Northridge Store	$11,000
Cosmetics Department cost of sales-Northridge Store	$83,000
Central warehouse lease cost	$17,000
Store security-Northridge Store	$11,000
Cosmetics Department manager's salary-Northridge Store	$4,000

The Northridge Store is just one of many stores owned and operated by the company. The Cosmetics Department is one of many departments at the Northridge Store. The central warehouse serves all of the company's stores.

What is the total amount of the costs listed above that are NOT direct costs of the Northridge Store?

A. $172,000

B. $33,000

C. $80,000

D. $94,000

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101. The following cost data pertain to the operations of Bouffard Department Stores, Inc., for the month of May.

Corporate legal office salaries	$68,000
Shoe Department cost of sales-Brentwood Store	$29,000
Corporate headquarters building lease	$86,000
Store manager's salary-Brentwood Store	$12,000
Shoe Department sales commissions-Brentwood Store	$5,000
Store utilities-Brentwood Store	$10,000
Shoe Department manager's salary-Brentwood Store	$4,000
Central warehouse lease cost	$7,000
Janitorial costs-Brentwood Store	$10,000

The Brentwood Store is just one of many stores owned and operated by the company. The Shoe Department is one of many departments at the Brentwood Store. The central warehouse serves all of the company's stores.

What is the total amount of the costs listed above that are direct costs of the Shoe Department?

A. $38,000

B. $29,000

C. $70,000

D. $34,000

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Managerial Accounting for Managers 4th edition Noreen Test Bank

102. The following cost data pertain to the operations of Bouffard Department Stores, Inc., for the month of May.

Corporate legal office salaries	$68,000
Shoe Department cost of sales-Brentwood Store	$29,000
Corporate headquarters building lease	$86,000
Store manager's salary-Brentwood Store	$12,000
Shoe Department sales commissions-Brentwood Store	$5,000
Store utilities-Brentwood Store	$10,000
Shoe Department manager's salary-Brentwood Store	$4,000
Central warehouse lease cost	$7,000
Janitorial costs-Brentwood Store	$10,000

The Brentwood Store is just one of many stores owned and operated by the company. The Shoe Department is one of many departments at the Brentwood Store. The central warehouse serves all of the company's stores.

What is the total amount of the costs listed above that are NOT direct costs of the Brentwood Store?

A. $161,000

B. $86,000

C. $32,000

D. $38,000

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103. Management of Lewallen Corporation has asked your help as an intern in preparing some key reports for September. Direct materials cost was $57,000, direct labor cost was $43,000, and manufacturing overhead was $71,000. Selling expense was $15,000 and administrative expense was $32,000.

The conversion cost for September was:

A. $114,000

B. $131,000

C. $171,000

D. $103,000

104. Management of Lewallen Corporation has asked your help as an intern in preparing some key reports for September. Direct materials cost was $57,000, direct labor cost was $43,000, and manufacturing overhead was $71,000. Selling expense was $15,000 and administrative expense was $32,000.

The prime cost for September was:

A. $114,000

B. $100,000

C. $103,000

D. $47,000

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105.Abare Corporation reported the following data for the month of December:

Direct materials	$63,000
Direct labor cost	$52,000
Manufacturing overhead	$77,000
Selling expense	$26,000
Administrative expense	$36,000

The conversion cost for December was:

A. $134,000

B. $109,000

C. $192,000

D. $129,000

106.Abare Corporation reported the following data for the month of December:

Direct materials	$63,000
Direct labor cost	$52,000
Manufacturing overhead	$77,000
Selling expense	$26,000
Administrative expense	$36,000

The prime cost for December was:

A. $129,000

B. $115,000

C. $109,000

D. $62,000

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107. Krimton Corporation's manufacturing costs last year consisted of $150,000 of direct materials, $200,000 of direct labor, $40,000 of variable manufacturing overhead, and $25,000 of fixed manufacturing overhead.

Prime cost was:

A. $150,000

B. $190,000

C. $350,000

D. $415,000

108. Krimton Corporation's manufacturing costs last year consisted of $150,000 of direct materials, $200,000 of direct labor, $40,000 of variable manufacturing overhead, and $25,000 of fixed manufacturing overhead.

Conversion cost was:

A. $200,000

B. $240,000

C. $265,000

D. $415,000

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109.A partial listing of costs incurred during December at Rooks Corporation appears below:

Factory supplies	$7,000
Administrative wages and salaries	$92,000
Direct materials	$176,000
Sales staff salaries	$32,000
Factory depreciation	$52,000
Corporate headquarters building rent	$47,000
Indirect labor	$23,000
Marketing	$136,000
Direct labor	$82,000

The total of the period costs listed above for December is:

A. $82,000

B. $340,000

C. $389,000

D. $307,000

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Managerial Accounting for Managers 4th edition Noreen Test Bank

110.A partial listing of costs incurred during December at Rooks Corporation appears below:

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Administrative wages and salaries	$92,000
Direct materials	$176,000
Sales staff salaries	$32,000
Factory depreciation	$52,000
Corporate headquarters building rent	$47,000
Indirect labor	$23,000
Marketing	$136,000
Direct labor	$82,000

The total of the manufacturing overhead costs listed above for December is:

A. $30,000

B. $82,000

C. $647,000

D. $340,000

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111.A partial listing of costs incurred during December at Rooks Corporation appears below:

Factory supplies	$7,000
Administrative wages and salaries	$92,000
Direct materials	$176,000
Sales staff salaries	$32,000
Factory depreciation	$52,000
Corporate headquarters building rent	$47,000
Indirect labor	$23,000
Marketing	$136,000
Direct labor	$82,000

The total of the product costs listed above for December is:

A. $340,000

B. $82,000

C. $647,000

D. $307,000

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Managerial Accounting for Managers 4th edition Noreen Test Bank

112.A partial listing of costs incurred at Gilhooly Corporation during September appears below:

Direct materials	$183,000
Utilities, factory	$9,000
Administrative salaries	$90,000
Indirect labor	$25,000
Sales commissions	$33,000
Depreciation of production equipment	$25,000
Depreciation of administrative equipment	$32,000
Direct labor	$124,000
Advertising	$148,000

The total of the manufacturing overhead costs listed above for September is:

A. $669,000

B. $366,000

C. $34,000

D. $59,000

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113.A partial listing of costs incurred at Gilhooly Corporation during September appears below:

Direct materials	$183,000
Utilities, factory	$9,000
Administrative salaries	$90,000
Indirect labor	$25,000
Sales commissions	$33,000
Depreciation of production equipment	$25,000
Depreciation of administrative equipment	$32,000
Direct labor	$124,000
Advertising	$148,000

The total of the product costs listed above for September is:

A. $59,000

B. $366,000

C. $669,000

D. $303,000

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Managerial Accounting for Managers 4th edition Noreen Test Bank

114.A partial listing of costs incurred at Gilhooly Corporation during September appears below:

Direct materials	$183,000
Utilities, factory	$9,000
Administrative salaries	$90,000
Indirect labor	$25,000
Sales commissions	$33,000
Depreciation of production equipment	$25,000
Depreciation of administrative equipment	$32,000
Direct labor	$124,000
Advertising	$148,000

The total of the period costs listed above for September is:

A. $303,000

B. $59,000

C. $366,000

D. $362,000

115.At a sales volume of 37,000 units, Maks Corporation's property taxes (a cost that is fixed with respect to sales volume) total $802,900.

To the nearest whole dollar, what should be the total property taxes at a sales volume of 39,700 units? (Assume that this sales volume is within the relevant range.)

A. $802,900

B. $748,295

C. $832,195

D. $861,490

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116. At a sales volume of 37,000 units, Maks Corporation's property taxes (a cost that is fixed with respect to sales volume) total $802,900.

To the nearest whole cent, what should be the average property tax per unit at a sales volume of 40,300 units? (Assume that this sales volume is within the relevant range.)

A. $21.70

B. $20.22

C. $19.92

D. $20.81

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117. Corcetti Company manufactures and sells prewashed denim jeans. Large rolls of denim cloth are purchased and are first washed in a giant washing machine. After the cloth is dried, it is cut up into jean pattern shapes and then sewn together. The completed jeans are sold to various retail chains.

Which of the following terms could be used to correctly describe the cost of the soap used to wash the denim cloth?

	Direct Cost	Product Cost
A)	Yes	Yes
B)	Yes	No
C)	No	Yes
D)	No	No

A. Option A

B. Option B

C. Option C

D. Option D

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118. Corcetti Company manufactures and sells prewashed denim jeans. Large rolls of denim cloth are purchased and are first washed in a giant washing machine. After the cloth is dried, it is cut up into jean pattern shapes and then sewn together. The completed jeans are sold to various retail chains.

Which of the following terms could be used to correctly describe the wages paid to the workers that cut up the cloth into the jean pattern shapes?

	Conversion Cost	Variable Cost
A)	Yes	Yes
B)	Yes	No
C)	No	Yes
D)	No	No

A. Option A

B. Option B

C. Option C

D. Option D

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Managerial Accounting for Managers 4th edition Noreen Test Bank

119. Corcetti Company manufactures and sells prewashed denim jeans. Large rolls of denim cloth are purchased and are first washed in a giant washing machine. After the cloth is dried, it is cut up into jean pattern shapes and then sewn together. The completed jeans are sold to various retail chains.

Which of the following terms could be used to correctly describe the cost of the thread used to sew the jeans together?

	Manufacturing Overhead Cost	Fixed Cost
A)	Yes	Yes
B)	Yes	No
C)	No	Yes
D)	No	No

A. Option A

B. Option B

C. Option C

D. Option D

120. At an activity level of 8,300 machine-hours in a month, Baudry Corporation's total variable maintenance cost is $220,448 and its total fixed maintenance cost is $556,764.

What would be the total variable maintenance cost at an activity level of 8,600 machine-hours in a month? Assume that this level of activity is within the relevant range.

A. $777,212

B. $220,448

C. $576,888

D. $228,416

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121. At an activity level of 8,300 machine-hours in a month, Baudry Corporation's total variable maintenance cost is $220,448 and its total fixed maintenance cost is $556,764.

What would be the average fixed maintenance cost per unit at an activity level of 8,600 machine-hours in a month? Assume that this level of activity is within the relevant range.

A. $93.64

B. $67.08

C. $64.74

D. $75.15

122. Emerton Corporation leases its corporate headquarters building. This lease cost is fixed with respect to the company's sales volume. In a recent month in which the sales volume was 32,000 units, the lease cost was $716,800.

To the nearest whole dollar, what should be the total lease cost at a sales volume of 30,900 units in a month? (Assume that this sales volume is within the relevant range.)

A. $742,317

B. $692,160

C. $704,480

D. $716,800

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123. Emerton Corporation leases its corporate headquarters building. This lease cost is fixed with respect to the company's sales volume. In a recent month in which the sales volume was 32,000 units, the lease cost was $716,800.

To the nearest whole cent, what should be the average lease cost per unit at a sales volume of 34,400 units in a month? (Assume that this sales volume is within the relevant range.)

A. $23.20

B. $21.62

C. $20.84

D. $22.40

124. Hadrana Corporation reports that at an activity level of 5,500 units, its total variable cost is $275,330 and its total fixed cost is $86,240.

What would be the total variable cost at an activity level of 5,600 units? Assume that this level of activity is within the relevant range.

A. $275,330

B. $361,570

C. $87,808

D. $280,336

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125. Hadrana Corporation reports that at an activity level of 5,500 units, its total variable cost is $275,330 and its total fixed cost is $86,240.

What would be the average fixed cost per unit at an activity level of 5,600 units? Assume that this level of activity is within the relevant range.

A. $32.27

B. $15.68

C. $65.74

D. $15.40

126. At a sales volume of 30,000 units, Carne Company's total fixed costs are $30,000 and total variable costs are $45,000. The relevant range is 20,000 to 40,000 units.

If Carne Company were to sell 32,000 units, the total expected cost would be:

A. $75,000

B. $78,000

C. $80,000

D. $77,000

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127. At a sales volume of 30,000 units, Carne Company's total fixed costs are $30,000 and total variable costs are $45,000. The relevant range is 20,000 to 40,000 units.

If Carne Company were to sell 40,000 units, the total expected cost per unit would be:

A. $2.50

B. $2.25

C. $2.13

D. $1.88

128. At a sales volume of 35,000 units, Cly Corporation's sales commissions (a cost that is variable with respect to sales volume) total $525,000.

To the nearest whole dollar, what should be the total sales commissions at a sales volume of 36,100 units? (Assume that this sales volume is within the relevant range.)

A. $525,000

B. $509,003

C. $533,250

D. $541,500

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129. At a sales volume of 35,000 units, Cly Corporation's sales commissions (a cost that is variable with respect to sales volume) total $525,000.

To the nearest whole cent, what should be the average sales commission per unit at a sales volume of 33,600 units? (Assume that this sales volume is within the relevant range.)

A. $14.54

B. $15.00

C. $15.63

D. $15.32

130. Kodama Corporation staffs a helpline to answer questions from customers. The costs of operating the helpline are variable with respect to the number of calls in a month. At a volume of 30,000 calls in a month, the costs of operating the helpline total $369,000.

To the nearest whole dollar, what should be the total cost of operating the helpline costs at a volume of 33,800 calls in a month? (Assume that this call volume is within the relevant range.)

A. $369,000

B. $327,515

C. $392,370

D. $415,740

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131. Kodama Corporation staffs a helpline to answer questions from customers. The costs of operating the helpline are variable with respect to the number of calls in a month. At a volume of 30,000 calls in a month, the costs of operating the helpline total $369,000.

To the nearest whole cent, what should be the average cost of operating the helpline per call at a volume of 31,300 calls in a month? (Assume that this call volume is within the relevant range.)

A. $12.30

B. $11.79

C. $10.92

D. $12.05

132. Erkkila Inc. reports that at an activity level of 6,400 machine-hours in a month, its total variable inspection cost is $423,680 and its total fixed inspection cost is $154,368.

What would be the average fixed inspection cost per unit at an activity level of 6,700 machine-hours in a month? Assume that this level of activity is within the relevant range.

A. $23.04

B. $90.32

C. $24.12

D. $45.83

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133. Erkkila Inc. reports that at an activity level of 6,400 machine-hours in a month, its total variable inspection cost is $423,680 and its total fixed inspection cost is $154,368.

What would be the total variable inspection cost at an activity level of 6,700 machine-hours in a month? Assume that this level of activity is within the relevant range.

A. $423,680

B. $443,540

C. $161,604

D. $578,048

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134. Comparative income statements for Tudor Retailing Company for the last two months are presented below:

	September	October
Sales in units	5,000	7,000
Sales revenue	$100,000	$140,000
Cost of goods sold	40,000	56,000
Gross margin	60,000	84,000
Selling and administrative expenses:		
Shipping expense	7,500	10,500
Clerical expense	10,000	12,000
Maintenance expense	17,000	17,000
Total selling and administrative expense	34,500	39,500
Net operating income	$25,500	$44,500

Which of the following classifications best describes the behavior of shipping expense?

A. Mixed

B. Variable

C. Fixed

D. none of the above

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135. Comparative income statements for Tudor Retailing Company for the last two months are presented below:

	September	October
Sales in units	5,000	7,000
Sales revenue	$100,000	$140,000
Cost of goods sold	40,000	56,000
Gross margin	60,000	84,000
Selling and administrative expenses:		
Shipping expense	7,500	10,500
Clerical expense	10,000	12,000
Maintenance expense	17,000	17,000
Total selling and administrative expense	34,500	39,500
Net operating income	$25,500	$44,500

Which of the following classifications best describes the behavior of clerical expense?

A. Mixed

B. Variable

C. Fixed

D. none of the above

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Managerial Accounting for Managers 4th edition Noreen Test Bank

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	September	October
Sales in units	5,000	7,000
Sales revenue	$100,000	$140,000
Cost of goods sold	40,000	56,000
Gross margin	60,000	84,000
Selling and administrative expenses:		
Shipping expense	7,500	10,500
Clerical expense	10,000	12,000
Maintenance expense	17,000	17,000
Total selling and administrative expense	34,500	39,500
Net operating income	$25,500	$44,500

If the Tudor Retailing Company uses the high-low method of analysis, the total monthly fixed cost for Tudor Retailing Company would be estimated to be:

A. $34,500

B. $17,000

C. $27,000

D. $22,000

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137. Comparative income statements for Tudor Retailing Company for the last two months are presented below:

	September	October
Sales in units	5,000	7,000
Sales revenue	$100,000	$140,000
Cost of goods sold	40,000	56,000
Gross margin	60,000	84,000
Selling and administrative expenses:		
Shipping expense	7,500	10,500
Clerical expense	10,000	12,000
Maintenance expense	17,000	17,000
Total selling and administrative expense	34,500	39,500
Net operating income	$25,500	$44,500

If the Tudor Retailing Company uses the high-low method of analysis, the total selling and administrative expense if Tudor Retailing Company sells 6,500 units during a month would be estimated to be:

A. $37,000

B. $44,850

C. $38,250

D. $36,679

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138. Comco, Inc. has accumulated the following data for the cost of maintenance on its machinery for the last four months:

	Machine Hours	Maintenance Cost
September	21,000	$26,020
October	18,500	$24,600
November	15,000	$22,300
December	19,000	$25,100

Assume that the relevant range includes all of the activity levels mentioned in this problem.

Assuming Comco uses the high-low method of analysis, the fixed cost of maintenance would be estimated to be:

A. $14,500

B. $5,020

C. $13,000

D. $12,320

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Managerial Accounting for Managers 4th edition Noreen Test Bank

139. Comco, Inc. has accumulated the following data for the cost of maintenance on its machinery for the last four months:

	Machine Hours	Maintenance Cost
September	21,000	$26,020
October	18,500	$24,600
November	15,000	$22,300
December	19,000	$25,100

Assume that the relevant range includes all of the activity levels mentioned in this problem.

Assuming Comco uses the high-low method of analysis, if machine hours are budgeted to be 20,000 hours then the budgeted total maintenance cost would be expected to be:

A. $25,400

B. $25,560

C. $23,700

D. $24,720

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140. The following production and average cost data for two levels of monthly production volume have been supplied by a company that produces a single product:

Production volume	1,000 units	3,000 units
Direct materials	$13.20 per unit	$13.20 per unit
Direct labor	$14.50 per unit	$14.50 per unit
Manufacturing overhead	$65.40 per unit	$29.40 per unit

The best estimate of the total monthly fixed manufacturing cost is:

A. $65,400

B. $88,200

C. $93,100

D. $54,000

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141. The following production and average cost data for two levels of monthly production volume have been supplied by a company that produces a single product:

Production volume	1,000 units	3,000 units
Direct materials	$13.20 per unit	$13.20 per unit
Direct labor	$14.50 per unit	$14.50 per unit
Manufacturing overhead	$65.40 per unit	$29.40 per unit

The best estimate of the total variable manufacturing cost per unit is:

A. $39.10

B. $27.70

C. $11.40

D. $13.20

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142. The following production and average cost data for two levels of monthly production volume have been supplied by a company that produces a single product:

Production volume	1,000 units	3,000 units
Direct materials	$13.20 per unit	$13.20 per unit
Direct labor	$14.50 per unit	$14.50 per unit
Manufacturing overhead	$65.40 per unit	$29.40 per unit

The best estimate of the total cost to manufacture 1,200 units is closest to:

A. $68,520

B. $100,920

C. $111,720

D. $90,120

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143. Frank Company operates a cafeteria for its employees. The number of meals served each week over the last seven weeks, along with the total costs of operating the cafeteria are given below:

	Meals served	Cafeteria costs
Week 1	1,500	$4,800
Week 2	1,600	$5,080
Week 3	1,800	$5,280
Week 4	1,450	$4,900
Week 5	1,200	$4,000
Week 6	1,650	$5,100
Week 7	1,900	$5,400

Assume that the relevant range includes all of the activity levels mentioned in this problem.

Using the high-low method of analysis, the variable cost per meal served in the cafeteria would be estimated to be:

A. $1.50

B. $2.00

C. $2.80

D. $1.00

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144. Frank Company operates a cafeteria for its employees. The number of meals served each week over the last seven weeks, along with the total costs of operating the cafeteria are given below:

	Meals served	Cafeteria costs
Week 1	1,500	$4,800
Week 2	1,600	$5,080
Week 3	1,800	$5,280
Week 4	1,450	$4,900
Week 5	1,200	$4,000
Week 6	1,650	$5,100
Week 7	1,900	$5,400

Assume that the relevant range includes all of the activity levels mentioned in this problem.

Assume that the cafeteria expects to serve 1,850 meals during Week 8. Using the high-low method, the expected total cost of the cafeteria would be:

A. $5,340

B. $5,180

C. $5,300

D. $4,375

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145. Baker Corporation has provided the following production and total cost data for two levels of monthly production volume. The company produces a single product.

Production volume	6,000 units	7,000 units
Direct materials	$194,400	$226,800
Direct labor	$74,400	$86,800
Manufacturing overhead	$758,400	$779,800

The best estimate of the total monthly fixed manufacturing cost is:

A. $1,027,200

B. $1,060,300

C. $1,093,400

D. $630,000

146. Baker Corporation has provided the following production and total cost data for two levels of monthly production volume. The company produces a single product.

Production volume	6,000 units	7,000 units
Direct materials	$194,400	$226,800
Direct labor	$74,400	$86,800
Manufacturing overhead	$758,400	$779,800

The best estimate of the total variable manufacturing cost per unit is:

A. $32.40

B. $44.80

C. $66.20

D. $21.40

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147. Baker Corporation has provided the following production and total cost data for two levels of monthly production volume. The company produces a single product.

Production volume	6,000 units	7,000 units
Direct materials	$194,400	$226,800
Direct labor	$74,400	$86,800
Manufacturing overhead	$758,400	$779,800

The best estimate of the total cost to manufacture 6,300 units is closest to:

A. $984,060

B. $1,031,310

C. $1,047,060

D. $1,078,560

148. Callis Corporation is a wholesaler that sells a single product. Management has provided the following cost data for two levels of monthly sales volume. The company sells the product for $141.60 per unit.

Sales volume (units)	5,000	6,000
Cost of sales	$265,500	$318,600
Selling and administrative costs	$393,500	$406,800

The best estimate of the total monthly fixed cost is:

A. $692,200

B. $725,400

C. $659,000

D. $327,000

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149. Callis Corporation is a wholesaler that sells a single product. Management has provided the following cost data for two levels of monthly sales volume. The company sells the product for $141.60 per unit.

Sales volume (units)	5,000	6,000
Cost of sales	$265,500	$318,600
Selling and administrative costs	$393,500	$406,800

The best estimate of the total variable cost per unit is:

A. $131.80

B. $53.10

C. $66.40

D. $120.90

150. Callis Corporation is a wholesaler that sells a single product. Management has provided the following cost data for two levels of monthly sales volume. The company sells the product for $141.60 per unit.

Sales volume (units)	5,000	6,000
Cost of sales	$265,500	$318,600
Selling and administrative costs	$393,500	$406,800

The best estimate of the total contribution margin when 5,300 units are sold is:

A. $51,940

B. $469,050

C. $109,710

D. $398,560

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151. Bee Company is a honey wholesaler. An income statement and other data for the second quarter of the year are given below:

Bee Company Income Statement For the Quarter Ended June 30		
Sales		$960,000
Cost of goods sold		420,000
Gross margin		540,000
Selling and administrative expenses:		
Selling	$200,000	
Administrative	75,000	275,000
Net operating income		$265,000

Other data:	
Average selling price	$60 per unit
Selling expenses	Fixed selling expenses plus 8% of sales
Administrative expense	Fixed administrative expenses plus $2 per unit

Bee Company's net operating income for the second quarter using the contribution approach is:

A. $156,200

B. $685,000

C. $431,200

D. $265,000

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Managerial Accounting for Managers 4th edition Noreen Test Bank

152. Bee Company is a honey wholesaler. An income statement and other data for the second quarter of the year are given below:

Bee Company Income Statement For the Quarter Ended June 30		
Sales		$960,000
Cost of goods sold		420,000
Gross margin		540,000
Selling and administrative expenses:		
Selling	$200,000	
Administrative	75,000	275,000
Net operating income		$265,000

Other data:	
Average selling price	$60 per unit
Selling expenses	Fixed selling expenses plus 8% of sales
Administrative expense	Fixed administrative expenses plus $2 per unit

Bee Company's contribution margin for the second quarter is:

A. $463,200

B. $540,000

C. $851,200

D. $431,200

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153. Bee Company is a honey wholesaler. An income statement and other data for the second quarter of the year are given below:

Bee Company Income Statement For the Quarter Ended June 30		
Sales		$960,000
Cost of goods sold		420,000
Gross margin		540,000
Selling and administrative expenses:		
Selling	$200,000	
Administrative	75,000	275,000
Net operating income		$265,000

Other data:	
Average selling price	$60 per unit
Selling expenses	Fixed selling expenses plus 8% of sales
Administrative expense	Fixed administrative expenses plus $2 per unit

Bee Company's cost formula for total selling and administrative expenses, with "X" equal to the number of units sold would be:

A. Y = $123,200 + $4.80X

B. Y = $123,200 + $6.80X

C. Y = $275,000 + $4.80X

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D. Y = $166,200 + $6.80X

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154. Bee Company is a honey wholesaler. An income statement and other data for the second quarter of the year are given below:

Bee Company Income Statement For the Quarter Ended June 30		
Sales		$960,000
Cost of goods sold		420,000
Gross margin		540,000
Selling and administrative expenses:		
Selling	$200,000	
Administrative	75,000	275,000
Net operating income		$265,000

Other data:	
Average selling price	$60 per unit
Selling expenses	Fixed selling expenses plus 8% of sales
Administrative expense	Fixed administrative expenses plus $2 per unit

If 24,000 units are sold during the third quarter and this activity is within the relevant range, Bee Company's expected contribution margin would be:

A. $646,800

B. $762,000

C. $810,000

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D. $760,080

155.Electrical costs at one of Reifel Corporation's factories are listed below:

	Machine-Hours	Electrical Cost
March	413	$7,371
April	506	$7,740
May	435	$7,447
June	486	$7,660
July	499	$7,704
August	461	$7,563
September	467	$7,571
October	458	$7,522
November	425	$7,403

Management believes that electrical cost is a mixed cost that depends on machine-hours.

Using the high-low method, the estimate of the variable component of electrical cost per machine-hour is closest to:

A. $0.12

B. $20.38

C. $7.98

D. $3.97

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156. Electrical costs at one of Reifel Corporation's factories are listed below:

	Machine-Hours	Electrical Cost
March	413	$7,371
April	506	$7,740
May	435	$7,447
June	486	$7,660
July	499	$7,704
August	461	$7,563
September	467	$7,571
October	458	$7,522
November	425	$7,403

Management believes that electrical cost is a mixed cost that depends on machine-hours.

Using the high-low method, the estimate of the fixed component of electrical cost per month is closest to:

A. $7,371

B. $5,731

C. $5,875

D. $5,840

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157.Cardillo Inc., an escrow agent, has provided the following data concerning its office expenses:

	Escrows Completed	Office Expenses
January	99	$13,181
February	111	$13,598
March	129	$14,239
April	133	$14,357
May	152	$15,095
June	104	$13,335
July	118	$13,847
August	100	$13,211
September	103	$13,283

Management believes that office expense is a mixed cost that depends on the number of escrows completed. Note: Real estate purchases usually involve the services of an escrow agent that holds funds and prepares documents to complete the transaction.

Using the high-low method, the estimate of the variable component of office expense per escrow completed is closest to:

A. $26.75

B. $118.23

C. $36.11

D. $72.49

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158.Cardillo Inc., an escrow agent, has provided the following data concerning its office expenses:

	Escrows Completed	Office Expenses
January	99	$13,181
February	111	$13,598
March	129	$14,239
April	133	$14,357
May	152	$15,095
June	104	$13,335
July	118	$13,847
August	100	$13,211
September	103	$13,283

Management believes that office expense is a mixed cost that depends on the number of escrows completed. Note: Real estate purchases usually involve the services of an escrow agent that holds funds and prepares documents to complete the transaction.

Using the high-low method, the estimate of the fixed component of office expense per month is closest to:

A. $9,606

B. $13,485

C. $13,181

D. $13,793

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159. Data concerning Nelson Company's activity for the first six months of the year appear below:

	Machine Hours	Electrical Cost
January	4,000	$3,120
February	6,000	$4,460
March	4,800	$3,500
April	3,800	$3,040
May	3,600	$2,900
June	4,200	$3,200

Using the high-low method of analysis, the estimated variable electrical cost per machine hour is:

A. $0.65

B. $0.40

C. $0.70

D. $0.67

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160. Data concerning Nelson Company's activity for the first six months of the year appear below:

	Machine Hours	Electrical Cost
January	4,000	$3,120
February	6,000	$4,460
March	4,800	$3,500
April	3,800	$3,040
May	3,600	$2,900
June	4,200	$3,200

Using the high-low method of analysis, the estimated monthly fixed component of the electrical cost is:

A. $1,520

B. $440

C. $260

D. $560

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161.Inspection costs at one of Iuliano Corporation's factories are listed below:

	Units Produced	Inspection Cost
February	905	$16,212
March	949	$16,600
April	911	$16,265
May	895	$16,110
June	917	$16,294
July	902	$16,180
August	919	$16,332
September	859	$15,760
October	898	$16,138

Management believes that inspection cost is a mixed cost that depends on units produced.

Using the high-low method, the estimate of the variable component of inspection cost per unit produced is closest to:

A. $10.57

B. $0.11

C. $17.89

D. $9.33

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162.Inspection costs at one of Iuliano Corporation's factories are listed below:

	Units Produced	Inspection Cost
February	905	$16,212
March	949	$16,600
April	911	$16,265
May	895	$16,110
June	917	$16,294
July	902	$16,180
August	919	$16,332
September	859	$15,760
October	898	$16,138

Management believes that inspection cost is a mixed cost that depends on units produced.

Using the high-low method, the estimate of the fixed component of inspection cost per month is closest to:

A. $16,210

B. $7,746

C. $15,761

D. $16,111

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163. Farnor, Inc., would like to estimate the variable and fixed components of its electrical costs and has compiled the following data for the last four months of operations.

	Machine Hours	Electrical Cost
January	30	$75
February	42	$90
March	35	$81
April	20	$68

Using the high-low method of analysis, the estimated variable cost per machine hour for electricity is closest to:

A. $3.40

B. $2.14

C. $1.00

D. $0.87

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164. Farnor, Inc., would like to estimate the variable and fixed components of its electrical costs and has compiled the following data for the last four months of operations.

	Machine Hours	Electrical Cost
January	30	$75
February	42	$90
March	35	$81
April	20	$68

Using the high-low method of analysis, the estimated fixed cost per month for electricity is closest to:

A. $53.46

B. $0.00

C. $3.40

D. $48.00

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165. Calip Corporation, a merchandising company, reported the following results for October:

Sales	$433,000
Cost of goods sold (all variable)	$173,000
Total variable selling expense	$18,000
Total fixed selling expense	$9,900
Total variable administrative expense	$10,000
Total fixed administrative expense	$25,600

The gross margin for October is:

A. $232,000

B. $260,000

C. $397,500

D. $196,500

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Managerial Accounting for Managers 4th edition Noreen Test Bank

166. Calip Corporation, a merchandising company, reported the following results for October:

Sales	$433,000
Cost of goods sold (all variable)	$173,000
Total variable selling expense	$18,000
Total fixed selling expense	$9,900
Total variable administrative expense	$10,000
Total fixed administrative expense	$25,600

The contribution margin for October is:

A. $260,000

B. $232,000

C. $196,500

D. $369,500

167. Tolden Marketing, Inc., a merchandising company, reported sales of $2,861,800 and cost of goods sold of $1,492,400 for December. The company's total variable selling expense was $77,900; its total fixed selling expense was $70,600; its total variable administrative expense was $98,400; and its total fixed administrative expense was $193,400. The cost of goods sold in this company is a variable cost.

The contribution margin for December is:

A. $1,369,400

B. $2,421,500

C. $1,193,100

D. $929,100

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168. Tolden Marketing, Inc., a merchandising company, reported sales of $2,861,800 and cost of goods sold of $1,492,400 for December. The company's total variable selling expense was $77,900; its total fixed selling expense was $70,600; its total variable administrative expense was $98,400; and its total fixed administrative expense was $193,400. The cost of goods sold in this company is a variable cost.

The gross margin for December is:

A. $1,193,100

B. $929,100

C. $1,369,400

D. $2,597,800

169. Ence Sales, Inc., a merchandising company, reported sales of 6,400 units in April at a selling price of $684 per unit. Cost of goods sold, which is a variable cost, was $455 per unit. Variable selling expenses were $30 per unit and variable administrative expenses were $40 per unit. The total fixed selling expenses were $156,800 and the total administrative expenses were $260,400.

The contribution margin for April was:

A. $1,017,600

B. $1,465,600

C. $600,400

D. $3,512,400

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170. Ence Sales, Inc., a merchandising company, reported sales of 6,400 units in April at a selling price of $684 per unit. Cost of goods sold, which is a variable cost, was $455 per unit. Variable selling expenses were $30 per unit and variable administrative expenses were $40 per unit. The total fixed selling expenses were $156,800 and the total administrative expenses were $260,400.

The gross margin for April was:

A. $1,465,600

B. $3,960,400

C. $1,017,600

D. $600,400

171. Nieman Inc., a local retailer, has provided the following data for the month of March:

Merchandise inventory, beginning balance	$30,000
Merchandise inventory, ending balance	$34,000
Sales	$280,000
Purchases of merchandise inventory	$146,000
Selling expense	$27,000
Administrative expense	$64,000

The cost of goods sold for March was:

A. $146,000

B. $150,000

C. $142,000

D. $237,000

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172.Nieman Inc., a local retailer, has provided the following data for the month of March:

Merchandise inventory, beginning balance	$30,000
Merchandise inventory, ending balance	$34,000
Sales	$280,000
Purchases of merchandise inventory	$146,000
Selling expense	$27,000
Administrative expense	$64,000

The net operating income for March was:

A. $130,000

B. $134,000

C. $43,000

D. $47,000

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173.Searls Corporation, a merchandising company, reported the following results for July:

Number of units sold	2,700 units
Selling price per unit	$664 per unit
Unit cost of goods sold	$405 per unit
Variable selling expense per unit	$48 per unit
Total fixed selling expense	$56,500
Variable administrative expense per unit	$13 per unit
Total fixed administrative expense	$118,200

Cost of goods sold is a variable cost in this company.

The gross margin for July is:

A. $1,618,100

B. $699,300

C. $359,900

D. $534,600

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174.Searls Corporation, a merchandising company, reported the following results for July:

Number of units sold	2,700 units
Selling price per unit	$664 per unit
Unit cost of goods sold	$405 per unit
Variable selling expense per unit	$48 per unit
Total fixed selling expense	$56,500
Variable administrative expense per unit	$13 per unit
Total fixed administrative expense	$118,200

Cost of goods sold is a variable cost in this company.

The contribution margin for July is:

A. $534,600

B. $699,300

C. $359,900

D. $1,453,400

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175. Dechico Corporation purchased a machine 3 years ago for $456,000 when it launched product G92L. Unfortunately, this machine has broken down and cannot be repaired. The machine could be replaced by a new model 330 machine costing $474,000 or by a new model 260 machine costing $418,000. Management has decided to buy the model 260 machine. It has less capacity than the model 330 machine, but its capacity is sufficient to continue making product G92L. Management also considered, but rejected, the alternative of dropping product G92L and not replacing the old machine. If that were done, the $418,000 invested in the new machine could instead have been invested in a project that would have returned a total of $496,000.

In making the decision to buy the model 260 machine rather than the model 330 machine, the differential cost was:

A. $18,000

B. $56,000

C. $38,000

D. $40,000

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176. Dechico Corporation purchased a machine 3 years ago for $456,000 when it launched product G92L. Unfortunately, this machine has broken down and cannot be repaired. The machine could be replaced by a new model 330 machine costing $474,000 or by a new model 260 machine costing $418,000. Management has decided to buy the model 260 machine. It has less capacity than the model 330 machine, but its capacity is sufficient to continue making product G92L. Management also considered, but rejected, the alternative of dropping product G92L and not replacing the old machine. If that were done, the $418,000 invested in the new machine could instead have been invested in a project that would have returned a total of $496,000.

In making the decision to buy the model 260 machine rather than the model 330 machine, the sunk cost was:

A. $418,000

B. $456,000

C. $474,000

D. $496,000

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177. Dechico Corporation purchased a machine 3 years ago for $456,000 when it launched product G92L. Unfortunately, this machine has broken down and cannot be repaired. The machine could be replaced by a new model 330 machine costing $474,000 or by a new model 260 machine costing $418,000. Management has decided to buy the model 260 machine. It has less capacity than the model 330 machine, but its capacity is sufficient to continue making product G92L. Management also considered, but rejected, the alternative of dropping product G92L and not replacing the old machine. If that were done, the $418,000 invested in the new machine could instead have been invested in a project that would have returned a total of $496,000.

In making the decision to invest in the model 260 machine, the opportunity cost was:

A. $418,000

B. $456,000

C. $474,000

D. $496,000

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178. Management of Childers Corporation is considering whether to purchase a new model 380 machine costing $278,000 or a new model 230 machine costing $207,000 to replace a machine that was purchased 3 years ago for $266,000. The old machine was used to make product R16K until it broke down last week. Unfortunately, the old machine cannot be repaired.

Management has decided to buy the new model 230 machine. It has less capacity than the new model 380 machine, but its capacity is sufficient to continue making product R16K.

Management also considered, but rejected, the alternative of simply dropping product R16K. If that were done, instead of investing $207,000 in the new machine, the money could be invested in a project that would return a total of $305,000.

In making the decision to buy the model 230 machine rather than the model 380 machine, the sunk cost was:

A. $305,000

B. $266,000

C. $278,000

D. $207,000

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179. Management of Childers Corporation is considering whether to purchase a new model 380 machine costing $278,000 or a new model 230 machine costing $207,000 to replace a machine that was purchased 3 years ago for $266,000. The old machine was used to make product R16K until it broke down last week. Unfortunately, the old machine cannot be repaired.

Management has decided to buy the new model 230 machine. It has less capacity than the new model 380 machine, but its capacity is sufficient to continue making product R16K.

Management also considered, but rejected, the alternative of simply dropping product R16K. If that were done, instead of investing $207,000 in the new machine, the money could be invested in a project that would return a total of $305,000.

In making the decision to buy the model 230 machine rather than the model 380 machine, the differential cost was:

A. $71,000

B. $59,000

C. $12,000

D. $39,000

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180. Management of Childers Corporation is considering whether to purchase a new model 380 machine costing $278,000 or a new model 230 machine costing $207,000 to replace a machine that was purchased 3 years ago for $266,000. The old machine was used to make product R16K until it broke down last week. Unfortunately, the old machine cannot be repaired.

Management has decided to buy the new model 230 machine. It has less capacity than the new model 380 machine, but its capacity is sufficient to continue making product R16K.

Management also considered, but rejected, the alternative of simply dropping product R16K. If that were done, instead of investing $207,000 in the new machine, the money could be invested in a project that would return a total of $305,000.

In making the decision to invest in the model 230 machine, the opportunity cost was:

A. $278,000

B. $305,000

C. $207,000

D. $266,000

Essay Questions

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181.A number of costs are listed below.

	Cost Description	Cost Object
1.	Cost of a measles vaccine administered at an outpatient clinic at a hospital	The outpatient clinic
2.	Cost of a replacement battery installed in a car at the auto repair shop of an automobile dealer	The auto repair shop
3.	Accounting professor's salary	A particular class
4.	Cost of electronic navigation system installed in a yacht at a yacht manufacturer	A particular yacht
5.	Cost of wiring used in making a personal computer	A particular personal computer
6.	Supervisor's wages in a computer manufacturing facility	A particular personal computer
7.	Cost of lubrication oil used at the auto repair shop of an automobile dealer	The auto repair shop
8.	Cost of heating a hotel run by a chain of hotels	A particular hotel guest
9.	Cost of heating a hotel run by a chain of hotels	The particular hotel
10.	Cost of tongue depressors used in an outpatient clinic at a hospital	A particular patient

Required:

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For each item above, indicate whether the cost is direct or indirect with respect to the cost object listed next to it.

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182. The Plastechnics Company began operations several years ago. The company's product requires materials that cost $25 per unit. The company employs a production supervisor whose salary is $2,000 per month. Production line workers are paid $15 per hour to manufacture and assemble the product. The company rents the equipment needed to produce the product at a rental cost of $1,500 per month. The building is depreciated on the straight-line basis at $9,000 per year.

The company spends $40,000 per year to market the product. Shipping costs for each unit are $20 per unit.

The company plans to liquidate several investments in order to expand production. These investments currently earn a return of $8,000 per year.

Required:

Complete the answer sheet below by placing an "X" under each heading that identifies the cost involved. The "Xs" can be placed under more than one heading for a single cost, e.g., a cost might be a sunk cost, an overhead cost, and a product cost.

	Variable Cost	Fixed Cost	Direct Materials Cost	Direct Materials Cost	Direct Labor Cost	Manufacturing Overhead Cost	Period Cost	Opportunity Cost	Sunk Cost
Materials									
Production supervisor salary									
Production line worker wages									
Equipment rental									
Building depreciation									

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Marketing costs									
Shipping cost									
Return on present investments									

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183.A partial listing of costs incurred at Falkenberg Corporation during October appears below:

Direct materials	$195,000
Utilities, factory	$9,000
Sales commissions	$75,000
Administrative salaries	$113,000
Indirect labor	$30,000
Advertising	$119,000
Depreciation of production equipment	$28,000
Direct labor	$105,000
Depreciation of administrative equipment	$44,000

Required:

a. What is the total amount of product cost listed above? Show your work.

b. What is the total amount of period cost listed above? Show your work.

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184.Sobota Corporation has provided the following partial listing of costs incurred during August:

Marketing salaries	$49,000
Property taxes, factory	$7,000
Administrative travel	$104,000
Sales commissions	$49,000
Indirect labor	$38,000
Direct materials	$138,000
Advertising	$76,000
Depreciation of production equipment	$54,000
Direct labor	$89,000

Required:

a. What is the total amount of product cost listed above? Show your work.

b. What is the total amount of period cost listed above? Show your work.

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185. Stony Electronics Corporation manufactures a portable radio designed for mounting on the wall of the bathroom. The following list represents some of the different types of costs incurred in the manufacture of these radios:

1. The plant manager's salary.
2. The cost of heating the plant.
3. The cost of heating executive offices.
4. The cost of printed circuit boards used in the radios.
5. Salaries and commissions of company salespersons.
6. Depreciation on office equipment used in the executive offices.
7. Depreciation on production equipment used in the plant.
8. Wages of janitorial personnel who clean the plant.
9. The cost of insurance on the plant building.
10. The cost of electricity to light the plant.
11. The cost of electricity to power plant equipment.
12. The cost of maintaining and repairing equipment in the plant.
13. The cost of printing promotional materials for trade shows.
14. The cost of solder used in assembling the radios.
15. The cost of telephone service for the executive offices.

Required:

Classify each of the items above as product (inventoriable) cost or period (noninventoriable) cost for the purpose of preparing external financial statements.

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186.A number of costs and measures of activity are listed below.

	Cost Description	Possible Measure of Activity
1.	Cost of renting production equipment on a monthly basis at a surfboard manufacturer	Surfboards produced
2.	Cost of shipping bags of garden mulch to a retail garden store	Bags shipped
3.	Building rent at a sandwich shop	Dollar sales
4.	Cost of hard disk installed in a computer	Number of computers assembled
5.	Cost of fresh vegetables used at a sandwich shop	Dollar sales
6.	Janitorial wages at a surfboard manufacturer	Surfboards produced
7.	Cost of advertising at a surfboard company	Surfboards sold
8.	Clinical supplies at a doctor's office	Number of patients
9.	Cost of leasing checkout equipment on a monthly basis at an electronics store	Dollar sales
10.	Cost of heating an electronics store	Dollar sales

Required:

For each item above, indicate whether the cost is MAINLY fixed or variable with respect to the

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possible measure of activity listed next to it.

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187.A number of costs and measures of activity are listed below.

	Cost Description	Possible Measure of Activity
1.	Cost of cement used to produce cinder blocks	Cinder blocks produced
2.	Cost of leasing checkout equipment on a monthly basis at a hardware store	Dollar sales
3.	Cost of vaccine used at a clinic	Vaccines administered
4.	Salary of the staff chaplain at a hospital	Number of patients
5.	Windshield wiper blades installed on autos at an auto assembly plant	Number of autos assembled
6.	Lease cost of equipment at a dentist's office	Number of patients
7.	Interest expense on corporate debt	Dollar sales
8.	Cost of renting production equipment on a monthly basis at a snowboard manufacturer	Snowboards produced
9.	Cost of advertising at a snowboard company	Snowboards sold
10	Cook's wages at a taco shop	Dollar sales

Required:

For each item above, indicate whether the cost is MAINLY fixed or variable with respect to the possible measure of activity listed next to it.

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188. Younger Corporation reports that at an activity level of 8,700 units, its total variable cost is $653,109 and its total fixed cost is $658,416.

Required:

For the activity level of 8,800 units, compute: (a) the total variable cost; (b) the total fixed cost; (c) the total cost; (d) the average variable cost per unit; (e) the average fixed cost per unit; and (f) the average total cost per unit. Assume that this activity level is within the relevant range.

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189. Shaw Supply Company sells a single product and has the following average costs at a sales level of 15,000 units:

Variable cost per unit	$2.45
Fixed cost per unit	4.75
Total cost per unit	$7.20

Required:

Determine the following amounts at a sales level of 18,000 units:

a. Total variable cost

b. Total fixed cost

c. Variable cost per unit

d. Fixed cost per unit

e. Total cost per unit

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190. At an activity level of 8,800 units, Pember Corporation's total variable cost is $146,520 and its total fixed cost is $219,296.

Required:

For the activity level of 8,900 units, compute: (a) the total variable cost; (b) the total fixed cost; (c) the total cost; (d) the average variable cost per unit; (e) the average fixed cost per unit; and (f) the average total cost per unit. Assume that this activity level is within the relevant range.

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191. Cosgrove, Inc., is a wholesaler that distributes a single product. The company's revenues and expenses for the last three months are given below:

Cosgrove Company Traditional Format Income Statement For the Three Months Ended June 30			
	April	May	June
Sales in units	3,000	3,750	4,500
Sales revenue	$420,000	$525,000	$630,000
Cost of goods sold	168,000	210,000	252,000
Gross margin	252,000	315,000	378,000
Selling and administrative expenses:			
Shipping expense	44,000	50,000	56,000
Advertising expense	70,000	70,000	70,000
Salaries and commissions	107,000	125,000	143,000
Insurance expense	9,000	9,000	9,000
Depreciation expense	42,000	42,000	42,000
Total selling and administrative expense	272,000	296,000	320,000
Net operating income (loss)	($20,000)	$19,000	$58,000

Required:

a. Determine which expenses are mixed and, by use of the high-low method, separate each

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mixed expense into variable and fixed elements. (Use unit sales as the activity measure.) State the cost formula for each mixed expense.

b. Compute the company's contribution margin for May.

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Chapter 02 Managerial Accounting and Cost Concepts Answer Key

True / False Questions

1. Selling costs can be either direct or indirect costs.

   TRUE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-02 Identify and give examples of each of the three basic manufacturing cost categories.

2. A direct cost is a cost that cannot be easily traced to the particular cost object under consideration.

   FALSE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-01 Understand cost classifications used for assigning costs to cost objects: direct costs and indirect costs.

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3. Property taxes and insurance premiums paid on a factory building are examples of period costs.

FALSE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: 2 Medium
Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

4. Conversion cost equals product cost less direct labor cost.

FALSE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Analyze
Difficulty: 3 Hard
Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

5. Thread that is used in the production of mattresses is an indirect material that is therefore classified as manufacturing overhead.

TRUE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Remember

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Difficulty: 1 Easy

Learning Objective: 02-02 Identify and give examples of each of the three basic manufacturing cost categories.

6. Direct labor is a part of prime cost, but not conversion cost.

TRUE

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

7. Conversion cost is the sum of direct labor cost and direct materials cost.

FALSE

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

8. Direct material costs are generally fixed costs.

FALSE

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

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Blooms: Understand

Difficulty: 1 Easy

Learning Objective: 02-02 Identify and give examples of each of the three basic manufacturing cost categories.

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

9. Product costs are recorded as expenses in the period in which the related products are sold.

TRUE

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Understand

Difficulty: 1 Easy

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

10. Depreciation on manufacturing equipment is a product cost.

TRUE

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Understand

Difficulty: 1 Easy

Learning Objective: 02-02 Identify and give examples of each of the three basic manufacturing cost categories.

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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11. Manufacturing salaries and wages incurred in the factory are period costs.

FALSE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

12. Depreciation on office equipment would be included in product costs.

FALSE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: 2 Medium
Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

13. Rent on a factory building used in the production process would be classified as a product cost and as a fixed cost.

TRUE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: 2 Medium

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Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

14. A fixed cost remains constant if expressed on a unit basis.

<u>FALSE</u>

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

15. Total variable cost is expected to remain unchanged as activity changes within the relevant range.

<u>FALSE</u>

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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16. Country Charm Restaurant is open 24 hours a day and always has a fire going in the fireplace in the middle of its dining area. The cost of the firewood for this fire is fixed with respect to the number of meals served at the restaurant.

TRUE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: 2 Medium
Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

17. Committed fixed costs represent organizational investments with a multi-year planning horizon that can't be significantly reduced even for short periods.

TRUE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

18. Commissions paid to salespersons are a variable selling expense.

TRUE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement

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Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

19. Variable costs are costs that vary, in total, in direct proportion to changes in the volume or level of activity.

TRUE

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

20. The planning horizon for a committed fixed cost usually encompasses many years.

TRUE

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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21. Cost behavior is considered linear whenever a straight line is a reasonable approximation for the relation between cost and activity.

TRUE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

22. The high-low method uses cost and activity data from just two periods to establish the formula for a mixed cost.

TRUE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

23. The engineering approach to the analysis of mixed costs involves a detailed analysis of what cost behavior should be, based on an industrial engineer's evaluation of the production methods to be used, the materials specifications, labor requirements, equipment usage, production efficiency, power consumption, and so on.

TRUE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement

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Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

24. The contribution margin is the amount remaining from sales revenues after variable expenses have been deducted.

TRUE

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

25. A contribution format income statement for a merchandising company organizes costs into two categories—cost of goods sold and selling and administrative expenses.

FALSE

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

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26. The traditional format income statement provides managers with an income statement that clearly distinguishes between fixed and variable costs and therefore aids planning, control, and decision making.

FALSE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

27. In a contribution format income statement, the gross margin minus selling and administrative expenses equals net operating income.

FALSE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

28. A traditional format income statement organizes costs on the basis of behavior.

FALSE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement

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Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

29. In a traditional format income statement for a merchandising company, the selling and administrative expenses report all period costs that have been expensed as incurred.

TRUE

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

30. The contribution format is widely used for preparing external financial statements.

FALSE

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

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31. Contribution margin equals revenue minus all fixed costs.

FALSE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

32. The potential benefit that is given up when one alternative is selected over another is called an opportunity cost.

TRUE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-07 Understand cost classifications used in making decisions: differential costs, opportunity costs, and sunk costs.

33. A cost that differs from one month to another is known as a differential cost.

FALSE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: 1 Easy

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Learning Objective: 02-07 Understand cost classifications used in making decisions: differential costs, opportunity costs, and sunk costs.

Multiple Choice Questions

34. The nursing station on the fourth floor of Central Hospital is responsible for the care of orthopedic surgery patients. The costs of prescription drugs administered by the nursing station to patients should be classified as:

A. direct patient costs.
B. indirect patient costs.
C. overhead costs of the nursing station.
D. period costs of the hospital.

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Understand
Difficulty: 3 Hard
Learning Objective: 02-01 Understand cost classifications used for assigning costs to cost objects: direct costs and indirect costs.
Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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35. All of the following costs would be found in a company's accounting records except:

A. sunk cost.

B. opportunity cost.

C. indirect costs.

D. direct costs.

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 2 Medium

Learning Objective: 02-01 Understand cost classifications used for assigning costs to cost objects: direct costs and indirect costs.

Learning Objective: 02-07 Understand cost classifications used in making decisions: differential costs, opportunity costs, and sunk costs.

36. The costs of the Accounting Department at Central Hospital would be considered by the Surgery Department to be:

A. direct costs.

B. indirect costs.

C. incremental costs.

D. opportunity costs.

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Understand

Difficulty: 3 Hard

Learning Objective: 02-01 Understand cost classifications used for assigning costs to cost objects: direct costs and indirect costs.

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Learning Objective: 02-07 Understand cost classifications used in making decisions: differential costs, opportunity costs, and sunk costs.

37. Which of the following is classified as a direct labor cost?

	Wages of assembly-line workers	Wages of a factory supervisor
A)	No	No
B)	Yes	Yes
C)	No	Yes
D)	Yes	No

A. Option A

B. Option B

C. Option C

D. Option D

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-02 Identify and give examples of each of the three basic manufacturing cost categories.

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38. In a manufacturing company, direct labor costs combined with direct materials costs are known as:

A. period costs.

B. conversion costs.

C. prime costs.

D. opportunity costs.

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

39. The property taxes on a factory building would be an example of:

	Prime Cost	Conversion Cost
A)	No	Yes
B)	Yes	No
C)	Yes	Yes
D)	No	No

A. Option A

B. Option B

C. Option C

D. Option D

AACSB: Reflective Thinking

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AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

40. Which of the following would most likely be included as part of manufacturing overhead in the production of a wooden table?

A. The amount paid to the individual who stains the table.

B. The commission paid to the salesperson who sold the table.

C. The cost of glue used in the table.

D. The cost of the wood used in the table.

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-01 Understand cost classifications used for assigning costs to cost objects: direct costs and indirect costs.

Learning Objective: 02-02 Identify and give examples of each of the three basic manufacturing cost categories.

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41. Property taxes on a manufacturing facility are classified as:

	Conversion cost	Period cost
A)	Yes	No
B)	Yes	Yes
C)	No	Yes
D)	No	No

A. Option A

B. Option B

C. Option C

D. Option D

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-02 Identify and give examples of each of the three basic manufacturing cost categories.

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

42. Indirect labor is a(n):

A. Prime cost.

B. Conversion cost.

C. Period cost.

D. Opportunity cost.

AACSB: Reflective Thinking

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AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-02 Identify and give examples of each of the three basic manufacturing cost categories.

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

43. The salary paid to the maintenance supervisor in a manufacturing plant is an example of:

	Product Cost	Manufacturing Overhead
A)	No	Yes
B)	Yes	No
C)	Yes	Yes
D)	No	No

A. Option A

B. Option B

C. Option C

D. Option D

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-02 Identify and give examples of each of the three basic manufacturing cost categories.

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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44. All of the following would be classified as product costs except:

A. property taxes on production equipment.

B. insurance on factory machinery.

C. salaries of the marketing staff.

D. wages of machine operators.

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

45. The cost of direct materials cost is classified as a:

	Period cost	Product cost
A)	Yes	Yes
B)	No	No
C)	Yes	No
D)	No	Yes

A. Option A

B. Option B

C. Option C

D. Option D

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

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AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Understand

Difficulty: 1 Easy

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

46. Which of the following costs is classified as a prime cost?

	Direct materials	Indirect materials
A)	Yes	Yes
B)	No	No
C)	Yes	No
D)	No	Yes

A. Option A

B. Option B

C. Option C

D. Option D

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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47. Inventoriable costs are also known as:

A. variable costs.

B. conversion costs.

C. product costs.

D. fixed costs.

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

48. Fresh Wreath Corporation manufactures wreaths according to customer specifications and ships them to customers using United Parcel Service (UPS). Which two terms below describe the cost of shipping these wreaths?

A. variable cost and product cost

B. variable cost and period cost

C. fixed cost and product cost

D. fixed cost and period cost

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 2 Medium

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed

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costs.

49. If the level of activity increases within the relevant range:

A. variable cost per unit and total fixed costs also increase.

B. fixed cost per unit and total variable cost also increase.

C. total cost will increase and fixed cost per unit will decrease.

D. variable cost per unit and total cost also increase.

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

50. Within the relevant range:

A. variable cost per unit decreases as production decreases.

B. fixed cost per unit increases as production decreases.

C. fixed cost per unit decreases as production decreases.

D. variable cost per unit increases as production decreases.

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

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Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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51. Discretionary fixed costs:

A. have a planning horizon that covers many years.

B. may be reduced for short periods of time with minimal damage to the long-run goals of the organization.

C. cannot be reduced for even short periods of time without making fundamental changes.

D. are most effectively controlled through the effective utilization of facilities and organization.

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

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Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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52. When the activity level declines within the relevant range, what should happen with respect to the following?

	Fixed cost per unit	Variable cost per unit
A)	No change	Increase
B)	Increase	Increase
C)	Increase	No change
D)	No change	No change

A. Option A

B. Option B

C. Option C

D. Option D

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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53. Stott Company requires one full-time dock hand for every 500 packages loaded daily. The wages for these dock hands would be:

A. variable.

B. mixed.

C. step-variable.

D. curvilinear.

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

54. When the level of activity decreases, variable costs will:

A. increase per unit.

B. increase in total.

C. decrease in total.

D. decrease per unit.

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

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Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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55. Data for Cost A and Cost B appear below:

Units Produced	Cost Per Unit	Total Cost
Cost A		
1	?	$10
10	?	$100
100	?	$1,000
1,000	?	$10,000
Cost B		
1	$5,000	?
10	$500	?
100	$50	?
1,000	$5	?

Which of the above best describes the behavior of Costs A and B?

A. Cost A is fixed, Cost B is variable.

B. Cost A is variable, Cost B is fixed.

C. Both Cost A and Cost B are variable.

D. Both Cost A and Cost B are fixed.

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

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Blooms: Analyze

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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56. Which of the following companies would have the highest proportion of variable costs in its cost structure?

A. Public utility.

B. Airline.

C. Fast food outlet.

D. Architectural firm.

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Analyze

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

57. An example of a discretionary fixed cost would be:

A. taxes on the factory.

B. depreciation on manufacturing equipment.

C. insurance.

D. research and development.

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Understand

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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58. For planning, control, and decision-making purposes:

A. fixed costs should be converted to a per unit basis.

B. discretionary fixed costs should be eliminated.

C. variable costs should be ignored.

D. mixed costs should be separated into their variable and fixed components.

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Understand

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

59. Which of the following costs, if expressed on a per unit basis, would be expected to decrease as the level of production and sales increases?

A. Sales commissions.

B. Fixed manufacturing overhead.

C. Variable manufacturing overhead.

D. Direct materials.

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Understand

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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60. In describing the cost equation, Y = a + bX, "a" is:

A. the dependent variable cost.

B. the independent variable the level of activity.

C. the total fixed cost.

D. the variable cost per unit of activity.

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

61. Which of the following is an example of a cost that is variable with respect to the number of units produced?

A. Rent on the administrative office building.

B. Rent on the factory building.

C. Direct labor cost, where the direct labor workforce is adjusted to the actual production of the period.

D. Salaries of top marketing executives.

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Analyze

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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62. Contribution margin means:

A. what remains from total sales after deducting fixed expenses.

B. what remains from total sales after deducting cost of goods sold.

C. the sum of cost of goods sold and variable expenses.

D. what remains from total sales after deducting all variable expenses.

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

63. The _____ is the amount remaining from sales revenue after all variable expenses have been deducted.

A. cost structure

B. gross margin

C. contribution margin

D. committed fixed cost

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

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64. A sunk cost is:

A. a cost which may be saved by not adopting an alternative.

B. a cost which may be shifted to the future with little or no effect on current operations.

C. a cost which cannot be avoided because it has already been incurred.

D. a cost which does not entail any dollar outlay but which is relevant to the decision-making process.

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Decision Making

Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-07 Understand cost classifications used in making decisions: differential costs, opportunity costs, and sunk costs.

65. The cost of factory machinery purchased last year is:

A. an opportunity cost.

B. a differential cost.

C. a direct materials cost.

D. a sunk cost.

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Decision Making

Accessibility: Keyboard Navigation

Blooms: Understand

Difficulty: 1 Easy

Learning Objective: 02-07 Understand cost classifications used in making decisions: differential costs, opportunity costs, and sunk costs.

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66. Abbott Company's manufacturing overhead is 20% of its total conversion costs. If direct labor is $38,000 and if direct materials are $23,000, the manufacturing overhead is:

A. $9,500

B. $152,000

C. $5,750

D. $15,250

Manufacturing overhead = 0.20 × Conversion cost

Direct labor = $38,000

Conversion cost = Direct labor + Manufacturing overhead

Conversion cost = $38,000 + Manufacturing overhead

Conversion cost = $38,000 + (0.20 × Conversion cost)

0.80 × Conversion cost = $38,000

Conversion cost = $38,000 ÷ 0.80 = $47,500

Manufacturing overhead = 0.20 × Conversion cost

Manufacturing overhead = 0.20 × $47,500 = $9,500

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-02 Identify and give examples of each of the three basic manufacturing cost categories.

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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67. During the month of April, direct labor cost totaled $15,000 and direct labor cost was 30% of prime cost. If total manufacturing costs during April were $79,000, the manufacturing overhead was:

A. $35,000

B. $29,000

C. $50,000

D. $129,000

Direct labor = $15,000

Direct labor = 0.30 × Prime cost

Total manufacturing cost = $79,000

Direct labor cost = 0.30 × Prime cost

Prime cost = Direct labor cost ÷ 0.30

Prime cost = $15,000 ÷ 0.30 = $50,000

Total manufacturing cost = Prime cost + Manufacturing overhead cost

$79,000 = $50,000 + Manufacturing overhead cost

Manufacturing overhead cost = $29,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-02 Identify and give examples of each of the three basic manufacturing cost categories.

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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68. In April direct labor was 70% of conversion cost. If the manufacturing overhead for the month was $42,000 and the direct materials cost was $28,000, the direct labor cost was:

A. $98,000

B. $65,333

C. $18,000

D. $12,000

Direct labor = 0.70 × Conversion cost

Manufacturing overhead = $42,000

Conversion cost = Direct labor + Manufacturing overhead

Conversion cost = Direct labor + $42,000

Conversion cost = (0.70 × Conversion cost) + $42,000

0.30 × Conversion cost = $42,000

Conversion cost = $42,000 ÷ 0.30

Conversion cost = $140,000

Direct labor = 0.70 × Conversion cost = 0.70 × $140,000 = $98,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-02 Identify and give examples of each of the three basic manufacturing cost categories.

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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69. A manufacturing company prepays its insurance coverage for a three-year period. The premium for the three years is $2,400 and is paid at the beginning of the first year. Seventy percent of the premium applies to manufacturing operations and thirty percent applies to selling and administrative activities. What amounts should be considered product and period costs respectively for the first year of coverage?

	Product	Period
A)	$800	$0
B)	$0	$800
C)	$560	$240
D)	$240	$560

A. Option A

B. Option B

C. Option C

D. Option D

Annual insurance expense = $2,400 ÷ 3 = $800

Portion applicable to product cost = 0.70 × $800 = $560

Portion applicable to period cost = 0.30 × $800 = $240

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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70. The following costs were incurred in April:

Direct materials	$18,000
Direct labor	$21,000
Manufacturing overhead	$33,000
Selling expenses	$14,000
Administrative expenses	$19,000

Conversion costs during the month totaled:

A. $39,000

B. $54,000

C. $105,000

D. $51,000

Conversion cost = Direct labor + Manufacturing overhead

= $21,000 + $33,000 = $54,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-02 Identify and give examples of each of the three basic manufacturing cost categories.

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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71. The following costs were incurred in April:

Direct materials	$29,000
Direct labor	$24,000
Manufacturing overhead	$14,000
Selling expenses	$18,000
Administrative expenses	$18,000

Prime costs during the month totaled:

A. $53,000

B. $67,000

C. $38,000

D. $103,000

Prime cost = Direct materials + Direct labor

= $29,000 + $24,000 = $53,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-02 Identify and give examples of each of the three basic manufacturing cost categories.

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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72. At a volume of 8,000 units, Pwerson Company incurred $32,000 in factory overhead costs, including $12,000 in fixed costs. If volume increases to 9,000 units and both 8,000 units and 9,000 units are within the relevant range, then the company would expect to incur total factory overhead costs of:

A. $22,500

B. $32,000

C. $34,500

D. $20,000

Total cost = Total fixed cost + Total variable cost

$32,000 = $12,000 + Total variable cost

Total variable cost = $32,000 - $12,000 = $20,000

Variable cost per unit = $20,000 ÷ 8,000 units = $2.50 per unit

Total cost = Total fixed cost + Total variable cost

= $12,000 + ($2.50 per unit × 9,000 units)

= $12,000 + $22,500

= $34,500

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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73. The following data pertains to activity and costs for two months:

	June	July
Activity level in units	10,000	12,000
Direct materials	$16,000	$?
Fixed factory rent	12,000	?
Manufacturing overhead	10,000	?
Total cost	$38,000	$42,900

Assuming that these activity levels are within the relevant range, the manufacturing overhead for July was:

A. $10,000

B. $11,700

C. $19,000

D. $9,300

Direct materials per unit = $16,000 ÷ 10,000 units = $1.60 per unit

Total direct materials cost in July = $1.60 per unit × 12,000 units = $19,200

Fixed factory rent = $12,000 (given)

Total cost = Direct materials + Fixed factory rent + Manufacturing overhead

$42,900 = $19,200 + $12,000 + Manufacturing overhead

Manufacturing overhead = $70,000 - ($19,200 + $12,000)

= $42,900 - $31,200

= $11,700

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

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Difficulty: 3 Hard

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

74. At an activity level of 4,000 machine-hours in a month, Curt Corporation's total variable production engineering cost is $154,200 and its total fixed production engineering cost is $129,000. What would be the total production engineering cost per unit, both fixed and variable, at an activity level of 4,300 machine-hours in a month? Assume that this level of activity is within the relevant range.

A. $68.33

B. $68.55

C. $70.80

D. $65.86

Variable cost per unit = $154,200 ÷ 4,000 units = $38.55 per unit

Fixed cost per unit at 4,300 units = $129,000 ÷ 4,300 units = $30.00 per unit

Total cost = Variable cost + Fixed cost

= $38.55 per unit + $30.00 per unit

= $68.55 per unit

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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75. Ricwy Corporation uses the cost formula Y = $4,800 + $0.40X for the maintenance cost, where X is machine-hours. The August budget is based on 9,000 hours of planned machine time. Maintenance cost expected to be incurred during August is:

A. $4,800

B. $3,600

C. $8,400

D. $1,200

Y = $4,800 + $0.40 per unit × X

= $4,800 + ($0.40 per unit × 9,000 hours)

= $4,800 + $3,600

= $8,400

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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76. Given the cost formula Y = $18,000 + $6X, total cost at an activity level of 9,000 units would be:

A. $72,000

B. $18,000

C. $36,000

D. $54,000

Y = $18,000 + ($6 per unit × 9,000 units)

Y = $18,000 + $54,000

Y = $72,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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77. At an activity level of 6,900 units in a month, Zelinski Corporation's total variable maintenance and repair cost is $408,756 and its total fixed maintenance and repair cost is $230,253. What would be the total maintenance and repair cost, both fixed and variable, at an activity level of 7,100 units in a month? Assume that this level of activity is within the relevant range.

A. $648,270

B. $639,009

C. $650,857

D. $657,531

Variable cost per unit = $408,756 ÷ 6,900 units = $59.24 unit

Total cost = Total fixed cost + Total variable cost

= $230,253 + ($59.24 per unit × 7,100 units)

= $230,253 + $420,604

= $650,857

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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78. Given the cost formula, Y = $7,000 + $1.80X, total cost for an activity level of 4,000 units would be:

A. $7,000

B. $200

C. $7,200

D. $14,200

Y = $7,000 + ($1.80 per unit × X)

= $7,000 + ($1.80 per unit × 4,000 units)

= $7,000 + $7,200

= $14,200

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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79. Kaelker Corporation reports that at an activity level of 7,000 units, its total variable cost is $590,730 and its total fixed cost is $372,750. What would be the total cost, both fixed and variable, at an activity level of 7,100 units? Assume that this level of activity is within the relevant range.

A. $963,480

B. $977,244

C. $971,919

D. $970,362

Variable cost per unit = $590,730 ÷ 7,000 units = $84.39 unit

Total cost = Total fixed cost + Total variable cost

= $372,750 + $84.39 per unit × 7,100 units

= $372,750 + $599,169

= $971,919

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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80. Eddy Corporation has provided the following production and total cost data for two levels of monthly production volume. The company produces a single product.

Production volume	6,000 units	7,000 units
Direct materials	$582,600	$679,700
Direct labor	$136,200	$158,900
Manufacturing overhead	$691,800	$714,700

The best estimate of the total variable manufacturing cost per unit is:

A. $22.90

B. $119.80

C. $142.70

D. $97.10

Direct materials cost per unit = Change in cost ÷ Change in activity

= ($679,700 - $582,600) ÷ (7,000 units - 6,000 units)

= $97,100 ÷ 1,000 per unit

= $97.10 per unit

Direct labor cost per unit = Change in cost ÷ Change in activity

= ($158,900 - $136,200) ÷ (7,000 units - 6,000 units)

= $22,700 ÷ 1,000 units

= $22.70 per unit

Variable manufacturing overhead per unit = Change in cost ÷ Change in activity

= ($714,700 - $691,800) ÷ (7,000 units - 6,000 units)

= $22,900 ÷ 1,000 units

= $22.90 per unit

Total variable manufacturing cost per unit = Direct materials per unit + Direct labor per unit + Variable manufacturing overhead per unit = $97.10 per unit + $22.70 per unit + $22.90 per unit

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= $142.70 per unit

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Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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81. Cardiv Corporation has provided the following production and average cost data for two levels of monthly production volume. The company produces a single product.

Production volume	4,000 units	5,000 units
Direct materials	$85.80 per unit	$85.80 per unit
Direct labor	$56.10 per unit	$56.10 per unit
Manufacturing overhead	$73.60 per unit	$62.10 per unit

The best estimate of the total cost to manufacture 4,300 units is closest to:

A. $877,200

B. $909,400

C. $901,925

D. $926,650

Total manufacturing overhead at 5,000 units = 5,000 units × $62.10 per unit = $310,500

Total manufacturing overhead at 4,000 units = 4,000 units × $73.60 per unit = $294,400

Variable manufacturing overhead per unit = Change in cost ÷ Change in activity

= ($310,500 - $294,400) ÷ (5,000 units - 4,000 units)

= $16,100 ÷ 1,000 units

= $16.10 per unit

Fixed cost element of manufacturing overhead = Total cost - Variable cost element

= $310,500 - (5,000 units × $16.10 per unit)

= $310,500 - $80,500

= $230,000

Total variable manufacturing cost = Direct materials + Direct labor + Manufacturing overhead

= $85.80 per unit + $56.10 per unit + $16.10 per unit

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= $158.00 per unit

Total manufacturing cost = Total variable manufacturing cost per unit × Total units manufactured + Total fixed manufacturing cost

= ($158.00 per unit × 4,300 units) + $230,000

= $679,400 + $230,000

= $909,400

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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82. Harris Corporation is a wholesaler that sells a single product. Management has provided the following cost data for two levels of monthly sales volume. The company sells the product for $84.40 per unit.

Sales volume (units)	5,000	6,000
Cost of sales	$285,000	$342,000
Selling and administrative costs	$107,500	$120,000

The best estimate of the total variable cost per unit is:

A. $77.00

B. $57.00

C. $69.50

D. $78.50

Variable cost of sales = Change in cost ÷ Change in activity

= ($342,000 - $285,000) ÷ (6,000 units - 5,000 units)

= $57,000 ÷ 1,000 units

= $57.00 per unit

Variable selling and administrative cost = Change in cost ÷ Change in activity

= ($120,000 - $107,500) ÷ (6,000 units - 5,000 units)

= $12,500 ÷ 1,000 units

= $12.50 per unit

Total variable cost = Variable cost of sales + Variable selling and administrative cost

= $57.00 per unit + $12.50 per unit

= $69.50 per unit

AACSB: Analytical Thinking

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AICPA: FN Measurement

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Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

83. Werner Brothers, Inc., used the high-low method to derive its cost formula for electrical power cost. According to the cost formula, the variable cost per unit of activity is $2 per machine-hour. Total electrical power cost at the high level of activity was $9,400 and at the low level of activity was $9,000. If the high level of activity was 2,200 machine hours, then the low level of activity was:

A. 1,800 machine hours

B. 1,900 machine hours

C. 2,000 machine hours

D. 1,700 machine hours

Total cost = Total fixed cost + Total variable cost

High level of activity:

$9,400 = Total fixed cost + ($2 per machine-hour × 2,200 machine hours)

Total fixed cost = $9,400 - $4,400 = $5,000

Low level of activity:

$9,000 = $5,000 + ($2 per machine-hour × Low level of activity)

$2 per machine-hour × Low level of activity = $9,000 - $5,000 = $4,000

Low level of activity = 2,000 machine hours.

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Blooms: Apply

Difficulty: 3 Hard

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Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

84. Davis Corporation has provided the following production and total cost data for two levels of monthly production volume. The company produces a single product.

Production volume	1,000 units	2,000 units
Direct materials	$44,200	$88,400
Direct labor	$37,300	$74,600
Manufacturing overhead	$48,500	$62,200

The best estimate of the total monthly fixed manufacturing cost is:

A. $130,000

B. $177,600

C. $34,800

D. $225,200

Direct materials and direct labor are both strictly variable costs in this company.

Variable manufacturing overhead cost per unit = Change in cost ÷ Change in activity

= ($62,200 - $48,500) ÷ (2,000 units - 1,000 units)

= $13,700 ÷ 1,000 units

= $13.70 per unit

Fixed cost element of manufacturing overhead = Total cost - Variable cost element

= $62,200 - (2,000 units × $13.70 per unit)

= $62,200 - $27,400

= $34,800

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AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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85. Anderson Corporation has provided the following production and average cost data for two levels of monthly production volume. The company produces a single product.

Production volume	4,000 units	5,000 units
Direct materials	$99.20 per unit	$99.20 per unit
Direct labor	$45.50 per unit	$45.50 per unit
Manufacturing overhead	$94.00 per unit	$77.60 per unit

The best estimate of the total monthly fixed manufacturing cost is:

A. $388,000

B. $954,800

C. $376,000

D. $328,000

Both direct materials and direct labor are variable costs.

Total manufacturing overhead at 4,000 units = $94.00 per unit × 4,000 units = $376,000

Total manufacturing overhead at 5,000 units = $77.60 per unit × 5,000 units = $388,000

Variable element of manufacturing overhead = Change in cost ÷ Change in activity

= ($388,000 - $376,000) ÷ (5,000 units - 4,000 units)

= $12,000 ÷ 1,000 units

= $12 per unit

Fixed cost element of manufacturing overhead = Total cost - Total variable cost

= $388,000 - ($12.00 per unit × 5,000 units)

= $388,000 - ($60,000)

= $328,000

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Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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86. Farmington Corporation has provided the following production and total cost data for two levels of monthly production volume. The company produces a single product.

Production volume	6,000 units	7,000 units
Direct materials	$195,000	$227,500
Direct labor	$113,400	$132,300
Manufacturing overhead	$913,200	$931,700

The best estimate of the total cost to manufacture 6,300 units is closest to:

A. $1,162,350

B. $1,242,570

C. $1,222,515

D. $1,282,680

Direct materials is a variable cost, so it can be computed as follows:

Direct materials cost per unit = $195,000/6,000 units = $32.50 per unit

Direct labor could also be computed the same way, but just to make sure it is purely a variable cost, we'll use the high-low method:

Variable direct labor cost per unit = Change in cost ÷ Change in activity

= ($132,300 - $113,400) ÷ (7,000 units - 6,000 units)

= $18,900 ÷ 1,000 units

= $18.90 per unit

Direct labor fixed cost element = Total cost - Variable cost element

= $132,300 - ($18.90 per unit × 7,000 units)

= $132,300 - $132,300 = $0

Variable manufacturing overhead cost per unit = Change in cost ÷ Change in activity

= ($931,700 - $913,200) ÷ (7,000 units - 6,000 units)

= $18,500 ÷ 1,000 units

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= $18.50 per unit

Manufacturing overhead fixed cost element = Total cost - Variable cost element

= $931,700 - ($18.50 per unit × 7,000 units)

= $931,700 - $129,500 = $802,200

Total variable cost = Direct materials + Direct labor + Variable manufacturing overhead

= $32.50 per unit + $18.90 per unit + $18.50 per unit

= $69.90 per unit

Total fixed overhead cost = $802,200

Total cost to manufacture 6,300 units = Total fixed cost + Total variable cost

= $802,200 + ($69.90 per unit × 6,300 units)

= $802,200 + $440,370

= $1,242,570

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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87. Baker Corporation has provided the following production and average cost data for two levels of monthly production volume. The company produces a single product.

Production volume	1,000 units	3,000 units
Direct materials	$30.90 per unit	$30.90 per unit
Direct labor	$40.20 per unit	$40.20 per unit
Manufacturing overhead	$64.60 per unit	$33.80 per unit

The best estimate of the total variable manufacturing cost per unit is:

A. $89.50

B. $18.40

C. $71.10

D. $30.90

Total manufacturing overhead at 3,000 units = 3,000 units × $33.80 per unit = $101,400

Total manufacturing overhead at 1,000 units = 1,000 units × $64.60 per unit = $64,600

Variable manufacturing overhead per unit = Change in cost ÷ Change in activity

= ($101,400 - $64,600) ÷ (3,000 units - 1,000 units)

= $36,800 ÷ 2,000 units

= $18.40 per unit

Total variable manufacturing cost = Direct materials + Direct labor + Variable manufacturing overhead

= $30.90 per unit + $40.20 per unit + $18.40 per unit

= $89.50 per unit

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AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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88. Gambino Corporation is a wholesaler that sells a single product. Management has provided the following cost data for two levels of monthly sales volume. The company sells the product for $138.80 per unit.

Sales volume (units)	6,000	7,000
Cost of sales	$369,000	$430,500
Selling and administrative costs	$407,400	$418,600

The best estimate of the total monthly fixed cost is:

A. $776,400

B. $340,200

C. $812,750

D. $849,100

Variable cost of sales per unit = Change in cost ÷ Change in activity

= ($430,500 - $369,000) ÷ (7,000 units - 6,000 units)

= $61,500 ÷ 1,000 units

= $61.50 per unit

Fixed cost of sales:

Total cost at 7,000 units	$430,500
Less variable cost element: 7,000 units × $61.50 per unit	430,500
Fixed cost	$0

Variable selling and administrative cost per unit = Change in cost ÷ Change in activity

= ($418,600 - $407,400) ÷ (7,000 units - 6,000 units)

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= $11,200 ÷ 1,000 units

= $11.20 per unit

Fixed cost of sales:

Total cost at 7,000 units	$418,600
Less variable cost element: 7,000 units × $11.20 per unit	78,400
Fixed cost	$340,200

Total fixed cost = $0 + $340,200 = $340,200

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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89. Iaci Corporation is a wholesaler that sells a single product. Management has provided the following cost data for two levels of monthly sales volume. The company sells the product for $133.60 per unit.

Sales volume (units)	4,000	5,000
Cost of sales	$383,600	$479,500
Selling and administrative costs	$124,400	$136,000

The best estimate of the total contribution margin when 4,300 units are sold is:

A. $112,230

B. $162,110

C. $28,380

D. $45,150

Used the high-low method to estimate variable components of the costs:

Variable cost of sales = Change in cost ÷ Change in activity

= ($479,500 - $383,600) ÷ (5,000 units - 4,000 units)

= $95,900 ÷ 1,000 units

= $95.90 per unit

Variable selling and administrative cost = Change in cost ÷ Change in activity

= ($136,000 - $124,400) ÷ (5,000 units - 4,000 units)

= $11,600 ÷ 1,000 units

= $11.60 per unit

Total variable cost per unit = Variable cost of sales + Variable selling and administrative cost

= $95.90 per unit + $11.60 per unit = $107.50 per unit

Contribution margin per unit = Selling price per unit - Total variable cost per unit

= $133.60 per unit - $107.50 per unit = $26.10 per unit

Total contribution margin = Contribution margin per unit × Total unit sales

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= $26.10 per unit × 4,300 units = $112,230

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AICPA: BB Critical Thinking

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Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

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90. Maintenance costs at a Whetsel Corporation factory are listed below:

	Machine-Hours	Maintenance Cost
March	3,135	$48,340
April	3,095	$47,993
May	3,133	$48,345
June	3,157	$48,548
July	3,065	$47,733
August	3,076	$47,830
September	3,084	$47,880
October	3,125	$48,247
November	3,098	$48,014

Management believes that maintenance cost is a mixed cost that depends on machine-hours. Use the high-low method to estimate the variable and fixed components of this cost. Compute the variable component first and round off to the nearest whole cent. Compute the fixed component second and round off to the nearest whole dollar. These estimates would be closest to:

A. $8.86 per machine-hour; $20,577 per month

B. $0.11 per machine-hour; $48,192 per month

C. $15.48 per machine-hour; $48,103 per month

D. $8.81 per machine-hour; $20,718 per month

	Machine-Hours	Maintenance Cost
High level of activity (June)	3,157	$48,548
Low level of activity	3,065	47,733

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(July)		
Change	92	$815

Variable cost per unit = Change in cost ÷ Change in activity

= $815 ÷ 92 machine-hours

= $8.86 per machine-hour

Fixed cost = Total cost - Variable cost element

= $48,548 - ($8.86 per machine-hour × 3,157 machine-hours)

= $48,548 - $27,971

= $20,577

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

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Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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91. The following data pertains to activity and utility cost for two recent periods:

Activity level (units)	8,000	5,000
Utility cost	$8,000	$6,150

Utility cost is a mixed cost with both fixed and variable components. Using the high-low method, the cost formula for utility cost is:

A. Y = $1.00 X

B. Y = $1.25 X

C. Y = $4,000 + $0.50 X

D. Y = $1,500 + $1.25 X

	Units	Utility Cost
High level of activity	8,000	$8,000
Low level of activity	5,000	6,500
Change	3,000	$1,500

Variable cost per unit = Change in cost ÷ Change in activity

= $1,500 ÷ 3,000 units

= $0.50 per unit

Fixed cost = Total cost - Variable cost element

= $8,000 - ($0.50 per unit × 8,000 units)

= $8,000 - $4,000

= $4,000

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Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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92. The following data pertains to activity and maintenance cost for two recent periods:

Activity level (units)	5,000	4,000
Maintenance cost	$16,750	$15,000

Maintenance cost is a mixed cost with both fixed and variable components. Using the high-low method, the cost formula for maintenance cost is:

A. Y = $8,000 + $1.75 X

B. Y = $3.75 X

C. Y = $1,750 + $3.35 X

D. Y = $3.35 X

	Units	Maintenance Cost
High level of activity	5,000	$16,750
Low level of activity	4,000	15,000
Change	1,000	$1,750

Variable cost per unit = Change in cost ÷ Change in activity

= $1,750 ÷ 1,000 units

= $1.75 per unit

Fixed cost = Total cost - Variable cost element

= $16,750 - ($1.75 per unit × 5,000 units)

= $16,750 - $8,750

= $8,000

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Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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93. Electrical costs at one of Kantola Corporation's factories are listed below:

	Machine-Hours	Electrical Cost
February	3,570	$36,405
March	3,580	$36,493
April	3,553	$36,302
May	3,627	$36,833
June	3,625	$36,800
July	3,565	$36,366
August	3,548	$36,237
September	3,542	$36,213
October	3,593	$36,577

Management believes that electrical cost is a mixed cost that depends on machine-hours. Use the high-low method to estimate the variable and fixed components of this cost. Compute the variable component first, rounding off to the nearest whole cent. Then compute the fixed component, rounding off to the nearest whole dollar. Those estimates are closest to:

A. $0.14 per machine-hour; $36,336 per month

B. $10.19 per machine-hour; $36,470 per month

C. $7.48 per machine-hour; $9,708 per month

D. $7.29 per machine-hour; $10,392 per month

	Machine-Hours	Electrical Cost
High level of activity (May)	3,627	$36,833
Low level of activity (September)	3,542	36,213

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Change	85	$620

Variable cost per unit = Change in cost ÷ Change in activity

= $620 ÷ 85 machine-hours

= $7.29 per machine-hour

Fixed cost = Total cost - Variable cost element

= $36,833 - ($7.29 per machine-hour × 3,627 machine-hours)

= $36,833 - $26,441

= $10,392

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

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Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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94. Oaklis Company has provided the following data for maintenance cost:

	Prior Year	Current Year
Machine hours	10,000	12,000
Maintenance cost	$24,000	$27,600

Maintenance cost is a mixed cost with variable and fixed components. The fixed and variable components of maintenance cost are closest to:

A. $24,000 per year; $2.30 per machine hour

B. $6,000 per year; $1.80 per machine hour

C. $6,000 per year; $2.30 per machine hour

D. $24,000 per year; $1.80 per machine hour

	Machine-Hours	Maintenance Cost
High level of activity	12,000	$27,600
Low level of activity	10,000	24,000
Change	2,000	$3,600

Variable cost per unit = Change in cost ÷ Change in activity

= $3,600 ÷ 2,000 machine-hours

= $1.80 per machine-hour

Fixed cost = Total cost - Variable cost element

= $27,600 - ($1.80 per machine-hour × 12,000 machine-hours)

= $27,600 - $21,600

= $6,000

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Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

95. A soft drink bottler incurred the following factory utility cost: $3,936 for 800 cases bottled and $3,988 for 900 cases bottled. Factory utility cost is a mixed cost containing both fixed and variable components. The variable factory utility cost per case bottled is closest to:

A. $4.92

B. $0.52

C. $4.43

D. $4.66

	Units	Utility Cost
High level of activity	900	$3,988
Low level of activity	800	3,936
Change	100	$52

Variable cost per unit = Change in cost ÷ Change in activity

= $52 ÷ 100 units

= $0.52 per unit

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Blooms: Apply

Difficulty: 1 Easy

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Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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96. Supply costs at Chobot Corporation's chain of gyms are listed below:

	Client-Visits	Supply Cost
January	12,183	$26,642
February	12,408	$26,853
March	12,232	$26,675
April	12,597	$27,054
May	12,527	$26,988
June	12,608	$27,064
July	12,143	$26,585
August	12,005	$26,454
September	11,944	$26,393

Management believes that supply cost is a mixed cost that depends on client-visits. Use the high-low method to estimate the variable and fixed components of this cost. Compute the variable component first, rounding off to the nearest whole cent. Then compute the fixed component, rounding off to the nearest whole dollar. Those estimates are closest to:

A. $2.18 per client-visit; $26,745 per month

B. $1.01 per client-visit; $14,330 per month

C. $1.04 per client-visit; $13,949 per month

D. $0.99 per client-visit; $14,607 per month

	Client-Visits	Supply Cost
High level of activity (June)	12,608	$27,064
Low level of activity (September)	11,944	26,393
Change	664	$671

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Variable cost per unit = Change in cost ÷ Change in activity

= $671 ÷ 664 client-visits

= $1.01 per client-visit

Fixed cost = Total cost - Variable cost element

= $27,064 - ($1.01 per unit × 12,608 client-visits)

= $27,064 - $12,734

= $14,330

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

97. Gabat Inc. is a merchandising company. Last month the company's merchandise purchases totaled $67,000. The company's beginning merchandise inventory was $19,000 and its ending merchandise inventory was $22,000. What was the company's cost of goods sold for the month?

A. $108,000

B. $67,000

C. $64,000

D. $70,000

Cost of goods sold = Beginning merchandise inventory + Purchases - Ending merchandise inventory = $19,000 + $67,000 - $22,000 = $64,000

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Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

98. Haab Inc. is a merchandising company. Last month the company's cost of goods sold was $66,000. The company's beginning merchandise inventory was $17,000 and its ending merchandise inventory was $11,000. What was the total amount of the company's merchandise purchases for the month?

A. $72,000

B. $66,000

C. $94,000

D. $60,000

Cost of goods sold = Beginning merchandise inventory + Purchases - Ending merchandise inventory

$66,000 = $17,000 + Purchases - $11,000

Purchases = $66,000 - $17,000 + $11,000 = $60,000

AACSB: Analytical Thinking

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Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

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99. The following cost data pertain to the operations of Rademaker Department Stores, Inc., for the month of March.

Corporate headquarters building lease	$80,000
Cosmetics Department sales commissions-Northridge Store	$7,000
Corporate legal office salaries	$75,000
Store manager's salary-Northridge Store	$11,000
Heating-Northridge Store	$11,000
Cosmetics Department cost of sales-Northridge Store	$83,000
Central warehouse lease cost	$17,000
Store security-Northridge Store	$11,000
Cosmetics Department manager's salary-Northridge Store	$4,000

The Northridge Store is just one of many stores owned and operated by the company. The Cosmetics Department is one of many departments at the Northridge Store. The central warehouse serves all of the company's stores.

What is the total amount of the costs listed above that are direct costs of the Cosmetics Department?

A. $83,000

B. $94,000

C. $90,000

D. $127,000

Direct costs of the Cosmetics Department = Cosmetics Department sales commissions + Cosmetics Department cost of sales + Cosmetics Department manager's salary = $7,000 +

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$83,000 + $4,000 = $94,000

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Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-01 Understand cost classifications used for assigning costs to cost objects: direct costs and indirect costs.

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100. The following cost data pertain to the operations of Rademaker Department Stores, Inc., for the month of March.

Corporate headquarters building lease	$80,000
Cosmetics Department sales commissions-Northridge Store	$7,000
Corporate legal office salaries	$75,000
Store manager's salary-Northridge Store	$11,000
Heating-Northridge Store	$11,000
Cosmetics Department cost of sales-Northridge Store	$83,000
Central warehouse lease cost	$17,000
Store security-Northridge Store	$11,000
Cosmetics Department manager's salary-Northridge Store	$4,000

The Northridge Store is just one of many stores owned and operated by the company. The Cosmetics Department is one of many departments at the Northridge Store. The central warehouse serves all of the company's stores.

What is the total amount of the costs listed above that are NOT direct costs of the Northridge Store?

A. $172,000

B. $33,000

C. $80,000

D. $94,000

Costs that are not direct costs of the Northridge Store = Corporate headquarters building lease + Corporate legal office salaries + Central warehouse lease cost = $80,000 + $75,000 + $17,000 = $172,000

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Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-01 Understand cost classifications used for assigning costs to cost objects: direct costs and indirect costs.

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101. The following cost data pertain to the operations of Bouffard Department Stores, Inc., for the month of May.

Corporate legal office salaries	$68,000
Shoe Department cost of sales-Brentwood Store	$29,000
Corporate headquarters building lease	$86,000
Store manager's salary-Brentwood Store	$12,000
Shoe Department sales commissions-Brentwood Store	$5,000
Store utilities-Brentwood Store	$10,000
Shoe Department manager's salary-Brentwood Store	$4,000
Central warehouse lease cost	$7,000
Janitorial costs-Brentwood Store	$10,000

The Brentwood Store is just one of many stores owned and operated by the company. The Shoe Department is one of many departments at the Brentwood Store. The central warehouse serves all of the company's stores.

What is the total amount of the costs listed above that are direct costs of the Shoe Department?

A. $38,000
B. $29,000
C. $70,000
D. $34,000

Direct costs of the Shoe Department = Shoe Department cost of sales + Shoe Department sales commissions + Shoe Department manager's salary = $29,000 + $5,000 + $4,000 =

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$38,000

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Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-01 Understand cost classifications used for assigning costs to cost objects: direct costs and indirect costs.

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102. The following cost data pertain to the operations of Bouffard Department Stores, Inc., for the month of May.

Corporate legal office salaries	$68,000
Shoe Department cost of sales-Brentwood Store	$29,000
Corporate headquarters building lease	$86,000
Store manager's salary-Brentwood Store	$12,000
Shoe Department sales commissions-Brentwood Store	$5,000
Store utilities-Brentwood Store	$10,000
Shoe Department manager's salary-Brentwood Store	$4,000
Central warehouse lease cost	$7,000
Janitorial costs-Brentwood Store	$10,000

The Brentwood Store is just one of many stores owned and operated by the company. The Shoe Department is one of many departments at the Brentwood Store. The central warehouse serves all of the company's stores.

What is the total amount of the costs listed above that are NOT direct costs of the Brentwood Store?

A. $161,000

B. $86,000

C. $32,000

D. $38,000

Costs that are not direct costs of the Brentwood Store = Corporate legal office salaries + Corporate headquarters building lease + Central warehouse lease cost = $68,000 + $86,000 +

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$7,000 = $161,000

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Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-01 Understand cost classifications used for assigning costs to cost objects: direct costs and indirect costs.

103. Management of Lewallen Corporation has asked your help as an intern in preparing some key reports for September. Direct materials cost was $57,000, direct labor cost was $43,000, and manufacturing overhead was $71,000. Selling expense was $15,000 and administrative expense was $32,000.

The conversion cost for September was:

A. $114,000

B. $131,000

C. $171,000

D. $103,000

Conversion cost = Direct labor + Manufacturing overhead = $43,000 + $71,000 = $114,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

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Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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104. Management of Lewallen Corporation has asked your help as an intern in preparing some key reports for September. Direct materials cost was $57,000, direct labor cost was $43,000, and manufacturing overhead was $71,000. Selling expense was $15,000 and administrative expense was $32,000.

The prime cost for September was:

A. $114,000

B. $100,000

C. $103,000

D. $47,000

Prime cost = Direct materials + Direct labor = $57,000 + $43,000 = $100,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

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Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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105. Abare Corporation reported the following data for the month of December:

Direct materials	$63,000
Direct labor cost	$52,000
Manufacturing overhead	$77,000
Selling expense	$26,000
Administrative expense	$36,000

The conversion cost for December was:

A. $134,000

B. $109,000

C. $192,000

D. $129,000

Conversion cost = Direct labor + Manufacturing overhead = $52,000 + $77,000 = $129,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

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Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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106. Abare Corporation reported the following data for the month of December:

Direct materials	$63,000
Direct labor cost	$52,000
Manufacturing overhead	$77,000
Selling expense	$26,000
Administrative expense	$36,000

The prime cost for December was:

A. $129,000

B. $115,000

C. $109,000

D. $62,000

Prime cost = Direct materials + Direct labor = $63,000 + $52,000 = $115,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

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Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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107. Krimton Corporation's manufacturing costs last year consisted of $150,000 of direct materials, $200,000 of direct labor, $40,000 of variable manufacturing overhead, and $25,000 of fixed manufacturing overhead.

Prime cost was:

A. $150,000

B. $190,000

C. $350,000

D. $415,000

Prime cost = Direct materials + Direct labor = $150,000 + $200,000 = $350,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

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Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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108. Krimton Corporation's manufacturing costs last year consisted of $150,000 of direct materials, $200,000 of direct labor, $40,000 of variable manufacturing overhead, and $25,000 of fixed manufacturing overhead.

Conversion cost was:

A. $200,000

B. $240,000

C. $265,000

D. $415,000

Conversion cost = Direct labor + Manufacturing overhead = $200,000 + ($40,000 + $25,000) = $265,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

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Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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109. A partial listing of costs incurred during December at Rooks Corporation appears below:

Factory supplies	$7,000
Administrative wages and salaries	$92,000
Direct materials	$176,000
Sales staff salaries	$32,000
Factory depreciation	$52,000
Corporate headquarters building rent	$47,000
Indirect labor	$23,000
Marketing	$136,000
Direct labor	$82,000

The total of the period costs listed above for December is:

A. $82,000

B. $340,000

C. $389,000

D. $307,000

Period costs include administrative wages and salaries, sales staff salaries, corporate headquarters building rent, and marketing.

$92,000 + $32,000 + $47,000 + $136,000 = $307,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

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Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

110. A partial listing of costs incurred during December at Rooks Corporation appears below:

Factory supplies	$7,000
Administrative wages and salaries	$92,000
Direct materials	$176,000
Sales staff salaries	$32,000
Factory depreciation	$52,000
Corporate headquarters building rent	$47,000
Indirect labor	$23,000
Marketing	$136,000
Direct labor	$82,000

The total of the manufacturing overhead costs listed above for December is:

A. $30,000

B. $82,000

C. $647,000

D. $340,000

Manufacturing overhead costs include factory supplies, factory depreciation, and indirect labor.

$7,000 + $52,000 + $23,000 = $82,000

AACSB: Analytical Thinking

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Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-02 Identify and give examples of each of the three basic manufacturing cost categories.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

111. A partial listing of costs incurred during December at Rooks Corporation appears below:

Factory supplies	$7,000
Administrative wages and salaries	$92,000
Direct materials	$176,000
Sales staff salaries	$32,000
Factory depreciation	$52,000
Corporate headquarters building rent	$47,000
Indirect labor	$23,000
Marketing	$136,000
Direct labor	$82,000

The total of the product costs listed above for December is:

A. $340,000

B. $82,000

C. $647,000

D. $307,000

Product costs include factory supplies, direct materials, factory depreciation, indirect labor, and direct labor.

$7,000 + $176,000 + $52,000 + $23,000 + $82,000 = $340,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-02 Identify and give examples of each of the three basic manufacturing cost categories.

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

112. A partial listing of costs incurred at Gilhooly Corporation during September appears below:

Direct materials	$183,000
Utilities, factory	$9,000
Administrative salaries	$90,000
Indirect labor	$25,000
Sales commissions	$33,000
Depreciation of production equipment	$25,000
Depreciation of administrative equipment	$32,000
Direct labor	$124,000
Advertising	$148,000

The total of the manufacturing overhead costs listed above for September is:

A. $669,000

B. $366,000

C. $34,000

D. $59,000

Manufacturing overhead includes: Utilities, factory; Indirect labor; and Depreciation of production equipment.

$9,000 + $25,000 + $25,000 = $59,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-02 Identify and give examples of each of the three basic manufacturing cost categories.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

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Indirect labor	$25,000
Sales commissions	$33,000
Depreciation of production equipment	$25,000
Depreciation of administrative equipment	$32,000
Direct labor	$124,000
Advertising	$148,000

The total of the product costs listed above for September is:

A. $59,000

B. $366,000

C. $669,000

D. $303,000

Product costs include: Direct materials; Utilities, factory; Indirect labor; Depreciation of production equipment; and Direct labor.

$183,000 + $9,000 + $25,000 + $25,000 + $124,000 = $366,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

114. A partial listing of costs incurred at Gilhooly Corporation during September appears below:

Direct materials	$183,000
Utilities, factory	$9,000
Administrative salaries	$90,000
Indirect labor	$25,000
Sales commissions	$33,000
Depreciation of production equipment	$25,000
Depreciation of administrative equipment	$32,000
Direct labor	$124,000
Advertising	$148,000

The total of the period costs listed above for September is:

A. $303,000

B. $59,000

C. $366,000

D. $362,000

Period costs include: Administrative salaries; Sales commissions; Depreciation of administrative equipment; and Advertising.

$90,000 + $33,000 + $32,000 + $148,000 = $303,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

115. At a sales volume of 37,000 units, Maks Corporation's property taxes (a cost that is fixed with respect to sales volume) total $802,900.

To the nearest whole dollar, what should be the total property taxes at a sales volume of 39,700 units? (Assume that this sales volume is within the relevant range.)

A. $802,900

B. $748,295

C. $832,195

D. $861,490

$802,900; A fixed cost is constant in total within the relevant range.

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

116. At a sales volume of 37,000 units, Maks Corporation's property taxes (a cost that is fixed with respect to sales volume) total $802,900.

To the nearest whole cent, what should be the average property tax per unit at a sales volume of 40,300 units? (Assume that this sales volume is within the relevant range.)

A. $21.70

B. $20.22

C. $19.92

D. $20.81

Average property tax per unit = Total property tax ÷ Unit sales = $802,900 ÷ 40,300 units = $19.92 per unit

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

117. Corcetti Company manufactures and sells prewashed denim jeans. Large rolls of denim cloth are purchased and are first washed in a giant washing machine. After the cloth is dried, it is cut up into jean pattern shapes and then sewn together. The completed jeans are sold to various retail chains.

Which of the following terms could be used to correctly describe the cost of the soap used to wash the denim cloth?

	Direct Cost	Product Cost
A)	Yes	Yes
B)	Yes	No
C)	No	Yes
D)	No	No

A. Option A

B. Option B

C. Option C

D. Option D

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Analyze

Difficulty: 1 Easy

Learning Objective: 02-01 Understand cost classifications used for assigning costs to cost objects: direct costs and indirect costs.

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

118. Corcetti Company manufactures and sells prewashed denim jeans. Large rolls of denim cloth are purchased and are first washed in a giant washing machine. After the cloth is dried, it is cut up into jean pattern shapes and then sewn together. The completed jeans are sold to various retail chains.

Which of the following terms could be used to correctly describe the wages paid to the workers that cut up the cloth into the jean pattern shapes?

	Conversion Cost	Variable Cost
A)	Yes	Yes
B)	Yes	No
C)	No	Yes
D)	No	No

A. Option A

B. Option B

C. Option C

D. Option D

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Analyze

Difficulty: 1 Easy

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

119. Corcetti Company manufactures and sells prewashed denim jeans. Large rolls of denim cloth are purchased and are first washed in a giant washing machine. After the cloth is dried, it is cut up into jean pattern shapes and then sewn together. The completed jeans are sold to various retail chains.

Which of the following terms could be used to correctly describe the cost of the thread used to sew the jeans together?

	Manufacturing Overhead Cost	Fixed Cost
A)	Yes	Yes
B)	Yes	No
C)	No	Yes
D)	No	No

A. Option A

B. Option B

C. Option C

D. Option D

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Analyze

Difficulty: 1 Easy

Learning Objective: 02-02 Identify and give examples of each of the three basic manufacturing cost categories.

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

120. At an activity level of 8,300 machine-hours in a month, Baudry Corporation's total variable maintenance cost is $220,448 and its total fixed maintenance cost is $556,764.

What would be the total variable maintenance cost at an activity level of 8,600 machine-hours in a month? Assume that this level of activity is within the relevant range.

A. $777,212

B. $220,448

C. $576,888

D. $228,416

Variable maintenance cost per unit = Total variable maintenance cost ÷ Total activity

= $220,448 ÷ 8,300 machine-hours

Total variable maintenance cost = Variable maintenance cost per unit × Total activity

= $26.56 per machine-hour × 8,600 machine-hours

= $228,416

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

121. At an activity level of 8,300 machine-hours in a month, Baudry Corporation's total variable maintenance cost is $220,448 and its total fixed maintenance cost is $556,764.

What would be the average fixed maintenance cost per unit at an activity level of 8,600 machine-hours in a month? Assume that this level of activity is within the relevant range.

A. $93.64

B. $67.08

C. $64.74

D. $75.15

Average fixed maintenance cost = Total fixed maintenance cost ÷ Total activity = $556,764 ÷ 8,600 machine-hours = $64.74 per machine-hour

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

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Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

122. Emerton Corporation leases its corporate headquarters building. This lease cost is fixed with respect to the company's sales volume. In a recent month in which the sales volume was 32,000 units, the lease cost was $716,800.

To the nearest whole dollar, what should be the total lease cost at a sales volume of 30,900 units in a month? (Assume that this sales volume is within the relevant range.)

A. $742,317

B. $692,160

C. $704,480

D. $716,800

$716,800; A fixed cost is constant in total within the relevant range.

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

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Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

123. Emerton Corporation leases its corporate headquarters building. This lease cost is fixed with respect to the company's sales volume. In a recent month in which the sales volume was 32,000 units, the lease cost was $716,800.

To the nearest whole cent, what should be the average lease cost per unit at a sales volume of 34,400 units in a month? (Assume that this sales volume is within the relevant range.)

A. $23.20

B. $21.62

C. $20.84

D. $22.40

Average lease cost per unit = Total lease cost ÷ Unit sales

= $716,800 ÷ 34,400 units = $20.84 per unit

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

124. Hadrana Corporation reports that at an activity level of 5,500 units, its total variable cost is $275,330 and its total fixed cost is $86,240.

What would be the total variable cost at an activity level of 5,600 units? Assume that this level of activity is within the relevant range.

A. $275,330

B. $361,570

C. $87,808

D. $280,336

Variable cost per unit = Total variable cost ÷ Total activity

= $275,330 ÷ 5,500 units

= $50.06 per unit

Total variable cost = Variable cost per unit × Total activity

= $50.06 per unit × 5,600 units

= $280,336

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

125. Hadrana Corporation reports that at an activity level of 5,500 units, its total variable cost is $275,330 and its total fixed cost is $86,240.

What would be the average fixed cost per unit at an activity level of 5,600 units? Assume that this level of activity is within the relevant range.

A. $32.27

B. $15.68

C. $65.74

D. $15.40

Average fixed cost per unit = Total fixed cost ÷ Total activity

= $86,240 ÷ 5,600 units

= $15.40 per unit

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

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Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

126. At a sales volume of 30,000 units, Carne Company's total fixed costs are $30,000 and total variable costs are $45,000. The relevant range is 20,000 to 40,000 units.

If Carne Company were to sell 32,000 units, the total expected cost would be:

A. $75,000

B. $78,000

C. $80,000

D. $77,000

Variable cost per unit = Total variable cost ÷ Units = $45,000 ÷ 30,000 = $1.50 per unit

Total cost = Fixed cost + (Variable cost per unit × Units)

= $30,000 + ($1.50 per unit × 32,000 units) = $78,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

127. At a sales volume of 30,000 units, Carne Company's total fixed costs are $30,000 and total variable costs are $45,000. The relevant range is 20,000 to 40,000 units.

If Carne Company were to sell 40,000 units, the total expected cost per unit would be:

A. $2.50

B. $2.25

C. $2.13

D. $1.88

Variable cost per unit = Total variable cost ÷ Units = $45,000 ÷ 30,000 = $1.50 per unit

Total cost = Fixed cost + (Variable cost per unit × Units)

= $30,000 + ($1.50 per unit × 40,000 units) = $90,000

Cost per unit = $90,000 ÷ 40,000 units = $2.25 per unit

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

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Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

128. At a sales volume of 35,000 units, Cly Corporation's sales commissions (a cost that is variable with respect to sales volume) total $525,000.

To the nearest whole dollar, what should be the total sales commissions at a sales volume of 36,100 units? (Assume that this sales volume is within the relevant range.)

A. $525,000

B. $509,003

C. $533,250

D. $541,500

Sales commission per unit = Total sales commissions ÷ Unit sales = $525,000 ÷ 35,000 = $15.00

Total sales commission = Sales commission per unit × Unit sales = $15.00 × 36,100 = $541,500

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

129. At a sales volume of 35,000 units, Cly Corporation's sales commissions (a cost that is variable with respect to sales volume) total $525,000.

To the nearest whole cent, what should be the average sales commission per unit at a sales volume of 33,600 units? (Assume that this sales volume is within the relevant range.)

A. $14.54

B. $15.00

C. $15.63

D. $15.32

Sales commission per unit = Total sales commissions ÷ Unit sales = $525,000 ÷ 35,000 = $15.00

The average sales commission per unit is constant within the relevant range.

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

130. Kodama Corporation staffs a helpline to answer questions from customers. The costs of operating the helpline are variable with respect to the number of calls in a month. At a volume of 30,000 calls in a month, the costs of operating the helpline total $369,000.

To the nearest whole dollar, what should be the total cost of operating the helpline costs at a volume of 33,800 calls in a month? (Assume that this call volume is within the relevant range.)

A. $369,000

B. $327,515

C. $392,370

D. $415,740

Helpline cost per unit = Total helpline costs ÷ Number of calls

= $369,000 ÷ 30,000 calls

= $12.30 per call

Total helpline cost = Helpline cost per unit × Number of calls

= $12.30 per call × 33,800 calls = $415,740

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

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Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

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To the nearest whole cent, what should be the average cost of operating the helpline per call at a volume of 31,300 calls in a month? (Assume that this call volume is within the relevant range.)

A. $12.30

B. $11.79

C. $10.92

D. $12.05

Helpline cost per unit = Total helpline costs ÷ Number of calls

= $369,000 ÷ 30,000 calls

= $12.30 per call

The average helpline cost per call is constant within the relevant range.

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

132. Erkkila Inc. reports that at an activity level of 6,400 machine-hours in a month, its total variable inspection cost is $423,680 and its total fixed inspection cost is $154,368.

What would be the average fixed inspection cost per unit at an activity level of 6,700 machine-hours in a month? Assume that this level of activity is within the relevant range.

A. $23.04

B. $90.32

C. $24.12

D. $45.83

Average fixed inspection cost = Total fixed inspection cost ÷ Total activity

= $154,368 ÷ 6,700 machine-hours

= $23.04 per machine-hour

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

133. Erkkila Inc. reports that at an activity level of 6,400 machine-hours in a month, its total variable inspection cost is $423,680 and its total fixed inspection cost is $154,368.

What would be the total variable inspection cost at an activity level of 6,700 machine-hours in a month? Assume that this level of activity is within the relevant range.

A. $423,680

B. $443,540

C. $161,604

D. $578,048

Variable inspection cost per unit = Total variable inspection cost ÷ Total activity
= $423,680 ÷ 6,400 machine-hours
= $66.20 per machine-hour

Total variable inspection cost = Variable inspection cost per unit × Total activity
= $66.20 per machine-hour × 6,700 machine-hours
= $443,540

AACSB: Analytical Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
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Blooms: Apply
Difficulty: 1 Easy
Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

134. Comparative income statements for Tudor Retailing Company for the last two months are presented below:

	September	October
Sales in units	5,000	7,000
Sales revenue	$100,000	$140,000
Cost of goods sold	40,000	56,000
Gross margin	60,000	84,000
Selling and administrative expenses:		
Shipping expense	7,500	10,500
Clerical expense	10,000	12,000
Maintenance expense	17,000	17,000
Total selling and administrative expense	34,500	39,500
Net operating income	$25,500	$44,500

Which of the following classifications best describes the behavior of shipping expense?

A. Mixed

B. Variable

C. Fixed

D. none of the above

	September	October	Percentage Change
Sales in units	5,000	7,000	40%
Shipping expense	$7,500	$10,500	40%

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Managerial Accounting for Managers 4th edition Noreen Test Bank

The shipping expense is proportional to the sales in units, so it is a variable cost.

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Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

135. Comparative income statements for Tudor Retailing Company for the last two months are presented below:

	September	October
Sales in units	5,000	7,000
Sales revenue	$100,000	$140,000
Cost of goods sold	40,000	56,000
Gross margin	60,000	84,000
Selling and administrative expenses:		
Shipping expense	7,500	10,500
Clerical expense	10,000	12,000
Maintenance expense	17,000	17,000
Total selling and administrative expense	34,500	39,500
Net operating income	$25,500	$44,500

Which of the following classifications best describes the behavior of clerical expense?

A. Mixed

B. Variable

C. Fixed

D. none of the above

	September	October	Percentage Change
Sales in units	5,000	7,000	40%
Clerical	$10,000	$12,000	20%

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Managerial Accounting for Managers 4th edition Noreen Test Bank

expense			

The clerical expense increases 20% when the unit sales increase by 40%, so it is a mixed cost. It increases, but not proportionally with the increase in sales.

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

136. Comparative income statements for Tudor Retailing Company for the last two months are presented below:

	September	October
Sales in units	5,000	7,000
Sales revenue	$100,000	$140,000
Cost of goods sold	40,000	56,000
Gross margin	60,000	84,000
Selling and administrative expenses:		
Shipping expense	7,500	10,500
Clerical expense	10,000	12,000
Maintenance expense	17,000	17,000
Total selling and administrative expense	34,500	39,500
Net operating income	$25,500	$44,500

If the Tudor Retailing Company uses the high-low method of analysis, the total monthly fixed cost for Tudor Retailing Company would be estimated to be:

A. $34,500

B. $17,000

C. $27,000

D. $22,000

	September	October
Sales in units	5,000	7,000
Cost of goods sold	$40,000	$56,000
Selling and administrative		

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expenses:		
Shipping expense	7,500	10,500
Clerical expense	10,000	12,000
Maintenance expense	17,000	17,000
Total expense	$74,500	$95,500

	Sales in Units	Cost Incurred
High activity level (October)	7,000	$95,500
Low activity level (September)	5,000	$74,500
Change	2,000	$21,000

Variable cost = Change in cost ÷ Change in activity = $21,000 ÷ 2,000 units = $10.50 per unit

Fixed cost element = Total cost - Variable cost element = $95,500 - ($10.50 per unit × 7,000 units) = $22,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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137. Comparative income statements for Tudor Retailing Company for the last two months are presented below:

	September	October
Sales in units	5,000	7,000
Sales revenue	$100,000	$140,000
Cost of goods sold	40,000	56,000
Gross margin	60,000	84,000
Selling and administrative expenses:		
Shipping expense	7,500	10,500
Clerical expense	10,000	12,000
Maintenance expense	17,000	17,000
Total selling and administrative expense	34,500	39,500
Net operating income	$25,500	$44,500

If the Tudor Retailing Company uses the high-low method of analysis, the total selling and administrative expense if Tudor Retailing Company sells 6,500 units during a month would be estimated to be:

A. $37,000

B. $44,850

C. $38,250

D. $36,679

	September	October
Sales in units	5,000	7,000
Selling and administrative		

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expenses:		
Shipping expense	7,500	10,500
Clerical expense	10,000	12,000
Maintenance expense	17,000	17,000
Total selling and administrative expense	34,500	39,500

	Sales in Units	Selling and Administrative Expense
High activity level (October)	7,000	$39,500
Low activity level (September)	5,000	$34,500
Change	2,000	$5,000

Variable cost = Change in cost ÷ Change in activity = $5,000 ÷ 2,000 units = $2.50 per unit

Fixed cost element = Total cost - Variable cost element = $39,500 - ($2.50 per unit × 7,000 units) = $22,000

Y = a + bX = $22,000 + ($2.50 per unit × 6,500 units) = $38,250

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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138. Comco, Inc. has accumulated the following data for the cost of maintenance on its machinery for the last four months:

	Machine Hours	Maintenance Cost
September	21,000	$26,020
October	18,500	$24,600
November	15,000	$22,300
December	19,000	$25,100

Assume that the relevant range includes all of the activity levels mentioned in this problem.

Assuming Comco uses the high-low method of analysis, the fixed cost of maintenance would be estimated to be:

A. $14,500

B. $5,020

C. $13,000

D. $12,320

	Machine Hours	Maintenance Cost
High activity level (September)	21,000	$26,020
Low activity level (November)	15,000	$22,300
Change	6,000	$3,720

Variable cost = Change in cost ÷ Change in activity = $3,720 ÷ 6,000 MHs = $0.62 per MH

Fixed cost element = Total cost - Variable cost element

= $26,020 - ($0.62 per MH × 21,000 MHs) = $13,000

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Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

139. Comco, Inc. has accumulated the following data for the cost of maintenance on its machinery for the last four months:

	Machine Hours	Maintenance Cost
September	21,000	$26,020
October	18,500	$24,600
November	15,000	$22,300
December	19,000	$25,100

Assume that the relevant range includes all of the activity levels mentioned in this problem.

Assuming Comco uses the high-low method of analysis, if machine hours are budgeted to be 20,000 hours then the budgeted total maintenance cost would be expected to be:

A. $25,400
B. $25,560
C. $23,700
D. $24,720

	Machine Hours	Maintenance Cost
High activity level (September)	21,000	$26,020
Low activity level (November)	15,000	$22,300
Change	6,000	$3,720

Variable cost = Change in cost ÷ Change in activity = $3,720 ÷ 6,000 MHs = $0.62 per MH

Fixed cost element = Total cost - Variable cost element

= $26,020 - ($0.62 per MH × 21,000 MHs) = $13,000

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Y = a + bX = $13,000 + ($0.62 per MH × 20,000 MHs) = $25,400

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Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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140. The following production and average cost data for two levels of monthly production volume have been supplied by a company that produces a single product:

Production volume	1,000 units	3,000 units
Direct materials	$13.20 per unit	$13.20 per unit
Direct labor	$14.50 per unit	$14.50 per unit
Manufacturing overhead	$65.40 per unit	$29.40 per unit

The best estimate of the total monthly fixed manufacturing cost is:

A. $65,400

B. $88,200

C. $93,100

D. $54,000

Total manufacturing overhead at 1,000 units = 1,000 units × $65.40 per unit = $65,400

Total manufacturing overhead at 3,000 units = 3,000 units × $29.40 per unit = $88,200

	Units Produced	**Total Manufacturing Overhead**
High level of activity	3,000	$88,200
Low level of activity	1,000	65,400
Change	2,000	$22,800

Variable cost per unit = Change in cost ÷ Change in activity

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= $22,800 ÷ 2,000 units

= $11.40 per unit

Fixed cost = Total cost - Variable cost element

= $88,200 - ($11.40 per unit × 3,000 units)

= $88,200 - $34,200

= $54,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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141. The following production and average cost data for two levels of monthly production volume have been supplied by a company that produces a single product:

Production volume	1,000 units	3,000 units
Direct materials	$13.20 per unit	$13.20 per unit
Direct labor	$14.50 per unit	$14.50 per unit
Manufacturing overhead	$65.40 per unit	$29.40 per unit

The best estimate of the total variable manufacturing cost per unit is:

A. $39.10

B. $27.70

C. $11.40

D. $13.20

Total manufacturing overhead at 1,000 units = 1,000 units × $65.40 per unit = $65,400

Total manufacturing overhead at 3,000 units = 3,000 units × $29.40 per unit = $88,200

	Units Produced	Total Manufacturing Overhead
High level of activity	3,000	$88,200
Low level of activity	1,000	65,400
Change	2,000	$22,800

Variable cost per unit = Change in cost ÷ Change in activity

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= $22,800 ÷ 2,000 units

= $11.40 per unit

Total variable cost per unit = Direct materials per unit + Direct labor per unit + variable manufacturing overhead per unit

= $13.20 + $14.50 + $11.40

= $39.10

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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142. The following production and average cost data for two levels of monthly production volume have been supplied by a company that produces a single product:

Production volume	1,000 units	3,000 units
Direct materials	$13.20 per unit	$13.20 per unit
Direct labor	$14.50 per unit	$14.50 per unit
Manufacturing overhead	$65.40 per unit	$29.40 per unit

The best estimate of the total cost to manufacture 1,200 units is closest to:

A. $68,520

B. $100,920

C. $111,720

D. $90,120

From earlier parts, the total fixed cost is $54,000 and the variable cost per unit is $39.10.

Total cost = Total fixed cost + Total variable cost

= $54,000 + ($39.10 per unit × 1,200 units)

= $54,000 + $46,920

= $100,920

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Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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143. Frank Company operates a cafeteria for its employees. The number of meals served each week over the last seven weeks, along with the total costs of operating the cafeteria are given below:

	Meals served	Cafeteria costs
Week 1	1,500	$4,800
Week 2	1,600	$5,080
Week 3	1,800	$5,280
Week 4	1,450	$4,900
Week 5	1,200	$4,000
Week 6	1,650	$5,100
Week 7	1,900	$5,400

Assume that the relevant range includes all of the activity levels mentioned in this problem.

Using the high-low method of analysis, the variable cost per meal served in the cafeteria would be estimated to be:

A. $1.50

B. $2.00

C. $2.80

D. $1.00

	Meals served	Cafeteria costs
High activity level (Week 7)	1,900	$5,400
Low activity level (Week 5)	1,200	$4,000

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Change	700	$1,400

Variable cost = Change in cost ÷ Change in activity = $1,400 ÷ 700 meals = $2.00 per meal

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Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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144. Frank Company operates a cafeteria for its employees. The number of meals served each week over the last seven weeks, along with the total costs of operating the cafeteria are given below:

	Meals served	Cafeteria costs
Week 1	1,500	$4,800
Week 2	1,600	$5,080
Week 3	1,800	$5,280
Week 4	1,450	$4,900
Week 5	1,200	$4,000
Week 6	1,650	$5,100
Week 7	1,900	$5,400

Assume that the relevant range includes all of the activity levels mentioned in this problem.

Assume that the cafeteria expects to serve 1,850 meals during Week 8. Using the high-low method, the expected total cost of the cafeteria would be:

A. $5,340

B. $5,180

C. $5,300

D. $4,375

	Meals served	Cafeteria costs
High activity level (Week 7)	1,900	$5,400
Low activity level (Week 5)	1,200	$4,000

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Change	700	$1,400

Variable cost = Change in cost ÷ Change in activity = $1,400 ÷ 700 meals = $2.00 per meal

Fixed cost element = Total cost - Variable cost element

= $5,400 - ($2.00 per meal × 1,900 meals) = $1,600

Y = a + bX = $1,600 + ($2.00 per meal × 1,850 meals) = $5,300

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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145. Baker Corporation has provided the following production and total cost data for two levels of monthly production volume. The company produces a single product.

Production volume	6,000 units	7,000 units
Direct materials	$194,400	$226,800
Direct labor	$74,400	$86,800
Manufacturing overhead	$758,400	$779,800

The best estimate of the total monthly fixed manufacturing cost is:

A. $1,027,200

B. $1,060,300

C. $1,093,400

D. $630,000

Direct materials is a variable cost.

Direct labor is usually a variable cost, but it doesn't hurt to check.

Variable cost per unit = Change in cost ÷ Change in activity

= ($86,800 - $74,400) ÷ (7,000 units - 6,000 units)

= $12,400 ÷ 1,000 units

= $12.40 per unit

Fixed cost = Total cost - Variable cost element

= $86,800 - ($12.40 per unit × 7,000 units)

= $86,800 - 86,800

= $0

Manufacturing overhead:

Variable cost per unit = Change in cost ÷ Change in activity

= ($779,800 - $758,400) ÷ (7,000 units - 6,000 units)

= $21,400 ÷ 1,000 units

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= $21.40 per unit

Fixed cost = Total cost - Variable cost element

= $779,800 - ($21.40 per unit × 7,000 units)

= $779,800 - $149,800

= $630,000

Total fixed cost per month = $0 + $630,000 = $630,000

AACSB: Analytical Thinking

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AICPA: FN Measurement

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Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

146. Baker Corporation has provided the following production and total cost data for two levels of monthly production volume. The company produces a single product.

Production volume	6,000 units	7,000 units
Direct materials	$194,400	$226,800
Direct labor	$74,400	$86,800
Manufacturing overhead	$758,400	$779,800

The best estimate of the total variable manufacturing cost per unit is:

A. $32.40

B. $44.80

C. $66.20

D. $21.40

Note: There are several ways to computer the variable cost per unit for direct materials and direct labor.

Direct materials:

Variable cost per unit = Change in cost ÷ Change in activity

= ($226,800 - $194,400) ÷ (7,000 units - 6,000 units)

= $32,400 ÷ 1,000 units

= $32.40 per unit

Direct labor:

Variable cost per unit = Change in cost ÷ Change in activity

= ($86,800 - $74,400) ÷ (7,000 units - 6,000 units)

= $12,400 ÷ 1,000 units

= $12.40 per unit

Manufacturing overhead

Variable cost per unit = Change in cost ÷ Change in activity

= ($779,800 - $758,400) ÷ (7,000 units - 6,000 units)

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= $21,400 ÷ 1,000 units

= $21.40 per unit

Total variable cost per unit = $32.40 per unit + $12.40 per unit + $21.40 per unit

= $66.20 per unit

AACSB: Analytical Thinking

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Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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147. Baker Corporation has provided the following production and total cost data for two levels of monthly production volume. The company produces a single product.

Production volume	6,000 units	7,000 units
Direct materials	$194,400	$226,800
Direct labor	$74,400	$86,800
Manufacturing overhead	$758,400	$779,800

The best estimate of the total cost to manufacture 6,300 units is closest to:

A. $984,060

B. $1,031,310

C. $1,047,060

D. $1,078,560

See earlier parts for the variable cost per unit and the total fixed cost.

Total cost = Total fixed cost + Total variable cost

= $630,000 + ($66.20 per units × 6,300 units)

= $630,000 + $417,060

= $1,047,060

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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148. Callis Corporation is a wholesaler that sells a single product. Management has provided the following cost data for two levels of monthly sales volume. The company sells the product for $141.60 per unit.

Sales volume (units)	5,000	6,000
Cost of sales	$265,500	$318,600
Selling and administrative costs	$393,500	$406,800

The best estimate of the total monthly fixed cost is:

A. $692,200

B. $725,400

C. $659,000

D. $327,000

Cost of sales is a variable cost.

Selling and administrative costs:

Variable cost per unit = Change in cost ÷ Change in activity

= ($406,800 - $393,500) ÷ (6,000 units - 5,000 units)

= $13,300 ÷ 1,000 units

= $13.30 per unit

Fixed cost = Total cost - Variable cost element

= $406,800 - ($13.30 per unit × 6,000 units)

= $406,800 - $79,800

= $327,000

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Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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149. Callis Corporation is a wholesaler that sells a single product. Management has provided the following cost data for two levels of monthly sales volume. The company sells the product for $141.60 per unit.

Sales volume (units)	5,000	6,000
Cost of sales	$265,500	$318,600
Selling and administrative costs	$393,500	$406,800

The best estimate of the total variable cost per unit is:

A. $131.80

B. $53.10

C. $66.40

D. $120.90

Cost of sales:

Because cost of sales is a variable cost, there are several ways to compute the variable cost per unit. Here is one:

Variable cost per unit = Change in cost ÷ Change in activity

= ($318,600 - $265,500) ÷ (6,000 units - 5,000 units)

= $53,100 ÷ 1,000 units

= $53.10 per unit

Selling and administrative costs:

Variable cost per unit = Change in cost ÷ Change in activity

= ($406,800 - $393,500) ÷ (6,000 units - 5,000 units)

= $13,300 ÷ 1,000 units

= $13.30 per unit

Total cost per unit = $53.10 per unit + $13.30 per unit = $66.40

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Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

150. Callis Corporation is a wholesaler that sells a single product. Management has provided the following cost data for two levels of monthly sales volume. The company sells the product for $141.60 per unit.

Sales volume (units)	5,000	6,000
Cost of sales	$265,500	$318,600
Selling and administrative costs	$393,500	$406,800

The best estimate of the total contribution margin when 5,300 units are sold is:

A. $51,940

B. $469,050

C. $109,710

D. $398,560

Contribution margin per unit = Selling price per unit - Variable cost per unit

= $141.60 per unit - $66.40 per unit

= $75.20 per unit

Total contribution margin = Contribution margin per unit × Unit sales

= $75.20 per unit × 5,300 units

= $398,560

AACSB: Analytical Thinking

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Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

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151. Bee Company is a honey wholesaler. An income statement and other data for the second quarter of the year are given below:

Bee Company Income Statement For the Quarter Ended June 30		
Sales		$960,000
Cost of goods sold		420,000
Gross margin		540,000
Selling and administrative expenses:		
Selling	$200,000	
Administrative	75,000	275,000
Net operating income		$265,000

Other data:	
Average selling price	$60 per unit
Selling expenses	Fixed selling expenses plus 8% of sales
Administrative expense	Fixed administrative expenses plus $2 per unit

Bee Company's net operating income for the second quarter using the contribution approach is:

A. $156,200

B. $685,000

C. $431,200

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D. $265,000

Unit sales = $960,000 ÷ $60 per unit = 16,000 units

Selling expenses = Fixed selling expenses + (0.08 × Sales)

$200,000 = Fixed selling expenses + (0.08 × $960,000)

Fixed selling expenses = $200,000 - $76,800 = $123,200

Administrative expenses = Fixed administrative expenses + ($2 per unit × 16,000 units)

$75,000 = Fixed administrative expenses + ($2 per unit × 16,000 units)

Fixed administrative expenses = $75,000 - $32,000 = $43,000

Sales		$960,000
Variable expenses:		
Cost of goods sold	$420,000	
Variable selling (8% of $960,000)	76,800	
Variable administrative ($2 per unit × 16,000 units)	32,000	528,800
Contribution margin		431,200
Fixed expenses:		
Fixed selling	123,200	
Fixed administrative	43,000	166,200
Net operating income		$265,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

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Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed

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costs.

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

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152. Bee Company is a honey wholesaler. An income statement and other data for the second quarter of the year are given below:

Bee Company Income Statement For the Quarter Ended June 30		
Sales		$960,000
Cost of goods sold		420,000
Gross margin		540,000
Selling and administrative expenses:		
Selling	$200,000	
Administrative	75,000	275,000
Net operating income		$265,000

Other data:	
Average selling price	$60 per unit
Selling expenses	Fixed selling expenses plus 8% of sales
Administrative expense	Fixed administrative expenses plus $2 per unit

Bee Company's contribution margin for the second quarter is:

A. $463,200

B. $540,000

C. $851,200

D. $431,200

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Unit sales = $960,000 ÷ $60 per unit = 16,000 units

Sales		$960,000
Variable expenses:		
Cost of goods sold	$420,000	
Variable selling (8% of $960,000)	76,800	
Variable administrative ($2 per unit × 16,000 units)	32,000	528,800
Contribution margin		$431,200

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

153. Bee Company is a honey wholesaler. An income statement and other data for the second quarter of the year are given below:

Bee Company Income Statement For the Quarter Ended June 30		
Sales		$960,000
Cost of goods sold		420,000
Gross margin		540,000
Selling and administrative expenses:		
Selling	$200,000	
Administrative	75,000	275,000
Net operating income		$265,000

Other data:	
Average selling price	$60 per unit
Selling expenses	Fixed selling expenses plus 8% of sales
Administrative expense	Fixed administrative expenses plus $2 per unit

Bee Company's cost formula for total selling and administrative expenses, with "X" equal to the number of units sold would be:

A. Y = $123,200 + $4.80X

B. Y = $123,200 + $6.80X

C. Y = $275,000 + $4.80X

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D. Y = $166,200 + $6.80X

Unit sales = $960,000 ÷ $60 per unit = 16,000 units

Selling expenses = Fixed selling expenses + (0.08 × Sales)

$200,000 = Fixed selling expenses + (0.08 × $960,000)

Fixed selling expenses = $200,000 - $76,800 = $123,200

Variable selling expense per unit = 0.08 × $60 per unit = $4.80 per unit

Administrative expenses = Fixed administrative expenses + ($2 per unit × 16,000 units)

$75,000 = Fixed administrative expenses + ($2 per unit × 16,000 units)

Fixed administrative expenses = $75,000 - $32,000 = $43,000

Total selling and administrative expenses = ($123,200 + $43,000) + ($4.80 + $2.00)X

= $166,200 + $6.80X

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

154. Bee Company is a honey wholesaler. An income statement and other data for the second quarter of the year are given below:

Bee Company Income Statement For the Quarter Ended June 30		
Sales		$960,000
Cost of goods sold		420,000
Gross margin		540,000
Selling and administrative expenses:		
Selling	$200,000	
Administrative	75,000	275,000
Net operating income		$265,000

Other data:	
Average selling price	$60 per unit
Selling expenses	Fixed selling expenses plus 8% of sales
Administrative expense	Fixed administrative expenses plus $2 per unit

If 24,000 units are sold during the third quarter and this activity is within the relevant range, Bee Company's expected contribution margin would be:

A. $646,800

B. $762,000

C. $810,000

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D. $760,080

Unit sales = $960,000 ÷ $60 per unit = 16,000 units

Cost of goods sold per unit = $420,000 ÷ 16,000 units = $26.25 per unit

Sales ($60 per unit × 24,000 units)		$1,440,000
Variable expenses:		
Cost of goods sold ($26.25 per unit × 24,000 units)	$630,000	
Variable selling (8% of $1,440,000)	115,200	
Variable administrative ($2 per unit × 24,000 units)	48,000	793,200
Contribution margin		$646,800

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

155. Electrical costs at one of Reifel Corporation's factories are listed below:

	Machine-Hours	Electrical Cost
March	413	$7,371
April	506	$7,740
May	435	$7,447
June	486	$7,660
July	499	$7,704
August	461	$7,563
September	467	$7,571
October	458	$7,522
November	425	$7,403

Management believes that electrical cost is a mixed cost that depends on machine-hours.

Using the high-low method, the estimate of the variable component of electrical cost per machine-hour is closest to:

A. $0.12

B. $20.38

C. $7.98

D. $3.97

	Machine-Hours	Electrical Cost
High level of activity (April)	506	$7,740
Low level of activity (March)	413	7,371

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Managerial Accounting for Managers 4th edition Noreen Test Bank

Change	93	$369

Variable cost per unit = Change in cost ÷ Change in activity

= $369 ÷ 93 machine-hours

= $3.97 per machine hour

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

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March	413	$7,371
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May	435	$7,447
June	486	$7,660
July	499	$7,704
August	461	$7,563
September	467	$7,571
October	458	$7,522
November	425	$7,403

Management believes that electrical cost is a mixed cost that depends on machine-hours.

Using the high-low method, the estimate of the fixed component of electrical cost per month is closest to:

A. $7,371

B. $5,731

C. $5,875

D. $5,840

	Machine-Hours	Electrical Cost
High level of activity (April)	506	$7,740
Low level of activity (March)	413	7,371

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Managerial Accounting for Managers 4th edition Noreen Test Bank

Change	93	$369

Variable cost per unit = Change in cost ÷ Change in activity

= $369 ÷ 93 machine-hours

= $3.97 per machine hour

Total fixed cost = Total cost - Variable cost element

= $7,740 - ($3.97 per machine-hour × 506 machine-hours)

= $7,740 - $2,009

= $5,731

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

157. Cardillo Inc., an escrow agent, has provided the following data concerning its office expenses:

	Escrows Completed	Office Expenses
January	99	$13,181
February	111	$13,598
March	129	$14,239
April	133	$14,357
May	152	$15,095
June	104	$13,335
July	118	$13,847
August	100	$13,211
September	103	$13,283

Management believes that office expense is a mixed cost that depends on the number of escrows completed. Note: Real estate purchases usually involve the services of an escrow agent that holds funds and prepares documents to complete the transaction.

Using the high-low method, the estimate of the variable component of office expense per escrow completed is closest to:

A. $26.75

B. $118.23

C. $36.11

D. $72.49

	Escrows Completed	Office Expenses
High level of activity (May)	152	$15,095

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Managerial Accounting for Managers 4th edition Noreen Test Bank

Low level of activity (January)	99	13,181
Change	53	$1,914

Variable cost per unit = Change in cost ÷ Change in activity

= $1,914 ÷ 53 escrows

= $36.11 per escrow

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

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March	129	$14,239
April	133	$14,357
May	152	$15,095
June	104	$13,335
July	118	$13,847
August	100	$13,211
September	103	$13,283

Management believes that office expense is a mixed cost that depends on the number of escrows completed. Note: Real estate purchases usually involve the services of an escrow agent that holds funds and prepares documents to complete the transaction.

Using the high-low method, the estimate of the fixed component of office expense per month is closest to:

A. $9,606
B. $13,485
C. $13,181
D. $13,793

	Escrows Completed	Office Expenses
High level of activity (May)	152	$15,095

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Managerial Accounting for Managers 4th edition Noreen Test Bank

Low level of activity (January)	99	13,181
Change	53	$1,914

Variable cost per unit = Change in cost ÷ Change in activity

= $1,914 ÷ 53 escrows

= $6.11 per escrow

Total fixed cost = Total cost - Variable cost element

= $15,095 - ($6.11 per escrow × 152 escrows)

= $15,095 - $5,489

= $9,606

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

159. Data concerning Nelson Company's activity for the first six months of the year appear below:

	Machine Hours	Electrical Cost
January	4,000	$3,120
February	6,000	$4,460
March	4,800	$3,500
April	3,800	$3,040
May	3,600	$2,900
June	4,200	$3,200

Using the high-low method of analysis, the estimated variable electrical cost per machine hour is:

A. $0.65

B. $0.40

C. $0.70

D. $0.67

	Machine-hours	Electrical Cost
High activity level (February)	6,000	$4,460
Low activity level (May)	3,600	$2,900
Change	2,400	$1,560

Variable cost = Change in cost ÷ Change in activity

Variable cost = $1,560 ÷ 2.,400 machine-hours = $0.65 per machine-hour

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

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Managerial Accounting for Managers 4th edition Noreen Test Bank

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

160. Data concerning Nelson Company's activity for the first six months of the year appear below:

	Machine Hours	Electrical Cost
January	4,000	$3,120
February	6,000	$4,460
March	4,800	$3,500
April	3,800	$3,040
May	3,600	$2,900
June	4,200	$3,200

Using the high-low method of analysis, the estimated monthly fixed component of the electrical cost is:

A. $1,520

B. $440

C. $260

D. $560

	Machine-hours	Electrical Cost
High activity level (February)	6,000	$4,460
Low activity level (May)	3,600	$2,900
Change	2,400	$1,560

Variable cost = Change in cost ÷ Change in activity

Variable cost = $1,560 ÷ 2,400 machine-hours = $0.65 per machine-hour

Fixed cost = Total cost - Variable cost

Fixed cost = $4,460 - ($0.65 per machine-hour × 6,000 machine-hours) = $560

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Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

161. Inspection costs at one of Iuliano Corporation's factories are listed below:

	Units Produced	Inspection Cost
February	905	$16,212
March	949	$16,600
April	911	$16,265
May	895	$16,110
June	917	$16,294
July	902	$16,180
August	919	$16,332
September	859	$15,760
October	898	$16,138

Management believes that inspection cost is a mixed cost that depends on units produced.

Using the high-low method, the estimate of the variable component of inspection cost per unit produced is closest to:

A. $10.57

B. $0.11

C. $17.89

D. $9.33

	Units Produced	Inspection Cost
High level of activity (March)	949	$16,600
Low level of activity (September)	859	15,760

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Managerial Accounting for Managers 4th edition Noreen Test Bank

Change	90	$840

Variable cost per unit = Change in cost ÷ Change in activity

= $840 ÷ 90 units

= $9.33 per unit

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

162. Inspection costs at one of Iuliano Corporation's factories are listed below:

	Units Produced	Inspection Cost
February	905	$16,212
March	949	$16,600
April	911	$16,265
May	895	$16,110
June	917	$16,294
July	902	$16,180
August	919	$16,332
September	859	$15,760
October	898	$16,138

Management believes that inspection cost is a mixed cost that depends on units produced.

Using the high-low method, the estimate of the fixed component of inspection cost per month is closest to:

A. $16,210

B. $7,746

C. $15,761

D. $16,111

	Units Produced	Inspection Cost
High level of activity (March)	949	$16,600
Low level of activity (September)	859	15,760

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Managerial Accounting for Managers 4th edition Noreen Test Bank

Change	90	$840

Variable cost per unit = Change in cost ÷ Change in activity

= $840 ÷ 90 units

= $9.33 per unit

Total fixed cost = Total cost - Variable cost element

= $16,600 - ($9.33 per unit × 949 units)

= $16,600 - $8,854

= $7,746

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

163. Farnor, Inc., would like to estimate the variable and fixed components of its electrical costs and has compiled the following data for the last four months of operations.

	Machine Hours	Electrical Cost
January	30	$75
February	42	$90
March	35	$81
April	20	$68

Using the high-low method of analysis, the estimated variable cost per machine hour for electricity is closest to:

A. $3.40

B. $2.14

C. $1.00

D. $0.87

	Machine Hours	Electrical Cost
High activity level (February)	42	$90
Low activity level (April)	20	$68
Change	22	$22

Variable cost = Change in cost ÷ Change in activity

Variable cost = $22 ÷ 22 machine-hours = $1.00 per machine-hour

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

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AICPA: FN Measurement

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Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

164. Farnor, Inc., would like to estimate the variable and fixed components of its electrical costs and has compiled the following data for the last four months of operations.

	Machine Hours	Electrical Cost
January	30	$75
February	42	$90
March	35	$81
April	20	$68

Using the high-low method of analysis, the estimated fixed cost per month for electricity is closest to:

A. $53.46

B. $0.00

C. $3.40

D. $48.00

	Machine Hours	Electrical Cost
High activity level (February)	42	$90
Low activity level (April)	20	$68
Change	22	$22

Variable cost = Change in cost ÷ Change in activity

Variable cost = $22 ÷ 22 machine-hours = $1.00 per machine-hour

Fixed cost = Total cost - Variable cost

Fixed cost = $90 - ($1.00 per machine-hour × 42 machine-hours) = $48

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AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

165. Calip Corporation, a merchandising company, reported the following results for October:

Sales	$433,000
Cost of goods sold (all variable)	$173,000
Total variable selling expense	$18,000
Total fixed selling expense	$9,900
Total variable administrative expense	$10,000
Total fixed administrative expense	$25,600

The gross margin for October is:

A. $232,000

B. $260,000

C. $397,500

D. $196,500

Sales	$433,000
Cost of goods sold	173,000
Gross margin	$260,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

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Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

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166. Calip Corporation, a merchandising company, reported the following results for October:

Sales	$433,000
Cost of goods sold (all variable)	$173,000
Total variable selling expense	$18,000
Total fixed selling expense	$9,900
Total variable administrative expense	$10,000
Total fixed administrative expense	$25,600

The contribution margin for October is:

A. $260,000

B. $232,000

C. $196,500

D. $369,500

Sales		$433,000
Variable expenses:		
Cost of goods sold	$173,000	
Variable selling expense	18,000	
Variable administrative expense	10,000	201,000
Contribution margin		$232,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

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Managerial Accounting for Managers 4th edition Noreen Test Bank

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

167. Tolden Marketing, Inc., a merchandising company, reported sales of $2,861,800 and cost of goods sold of $1,492,400 for December. The company's total variable selling expense was $77,900; its total fixed selling expense was $70,600; its total variable administrative expense was $98,400; and its total fixed administrative expense was $193,400. The cost of goods sold in this company is a variable cost.

The contribution margin for December is:

A. $1,369,400
B. $2,421,500
C. $1,193,100
D. $929,100

Sales		$2,861,800
Variable expenses:		
Cost of goods sold	$1,492,400	
Variable selling expense	77,900	
Variable administrative expense	98,400	1,668,700
Contribution margin		$1,193,100

AACSB: Analytical Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: 1 Easy

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Managerial Accounting for Managers 4th edition Noreen Test Bank

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

168. Tolden Marketing, Inc., a merchandising company, reported sales of $2,861,800 and cost of goods sold of $1,492,400 for December. The company's total variable selling expense was $77,900; its total fixed selling expense was $70,600; its total variable administrative expense was $98,400; and its total fixed administrative expense was $193,400. The cost of goods sold in this company is a variable cost.

The gross margin for December is:

A. $1,193,100

B. $929,100

C. $1,369,400

D. $2,597,800

Sales	$2,861,800
Cost of goods sold	1,492,400
Gross margin	$1,369,400

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

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169. Ence Sales, Inc., a merchandising company, reported sales of 6,400 units in April at a selling price of $684 per unit. Cost of goods sold, which is a variable cost, was $455 per unit. Variable selling expenses were $30 per unit and variable administrative expenses were $40 per unit. The total fixed selling expenses were $156,800 and the total administrative expenses were $260,400.

The contribution margin for April was:

A. $1,017,600
B. $1,465,600
C. $600,400
D. $3,512,400

Sales (6,400 units × $684 per unit)		$4,377,600
Variable expenses:		
Cost of goods sold (6,400 units × $455 per unit)	$2,912,000	
Variable selling expense (6,400 units × $30 per unit)	192,000	
Variable administrative expense (6,400 units × $40 per unit)	256,000	3,360,000
Contribution margin		$1,017,600

AACSB: Analytical Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Apply

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Managerial Accounting for Managers 4th edition Noreen Test Bank

Difficulty: 2 Medium

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

170. Ence Sales, Inc., a merchandising company, reported sales of 6,400 units in April at a selling price of $684 per unit. Cost of goods sold, which is a variable cost, was $455 per unit. Variable selling expenses were $30 per unit and variable administrative expenses were $40 per unit. The total fixed selling expenses were $156,800 and the total administrative expenses were $260,400.

The gross margin for April was:

A. $1,465,600
B. $3,960,400
C. $1,017,600
D. $600,400

Sales (6,400 units × $684 per unit)	$4,377,600
Cost of goods sold (6,400 units × $455 per unit)	2,912,000
Gross margin	$1,465,600

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

171. Nieman Inc., a local retailer, has provided the following data for the month of March:

Merchandise inventory, beginning balance	$30,000
Merchandise inventory, ending balance	$34,000
Sales	$280,000
Purchases of merchandise inventory	$146,000
Selling expense	$27,000
Administrative expense	$64,000

The cost of goods sold for March was:

A. $146,000

B. $150,000

C. $142,000

D. $237,000

Cost of goods sold = Beginning merchandise inventory + Purchases of merchandise inventory - Ending merchandise inventory

= $30,000 + $146,000 - $34,000

= $142,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

172. Nieman Inc., a local retailer, has provided the following data for the month of March:

Merchandise inventory, beginning balance	$30,000
Merchandise inventory, ending balance	$34,000
Sales	$280,000
Purchases of merchandise inventory	$146,000
Selling expense	$27,000
Administrative expense	$64,000

The net operating income for March was:

A. $130,000

B. $134,000

C. $43,000

D. $47,000

Net operating income = Sales - Cost of goods sold - Selling and administrative expenses

= $280,000 - $142,000 - ($27,000 + $64,000)

= $47,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

173. Searls Corporation, a merchandising company, reported the following results for July:

Number of units sold	2,700 units
Selling price per unit	$664 per unit
Unit cost of goods sold	$405 per unit
Variable selling expense per unit	$48 per unit
Total fixed selling expense	$56,500
Variable administrative expense per unit	$13 per unit
Total fixed administrative expense	$118,200

Cost of goods sold is a variable cost in this company.

The gross margin for July is:

A. $1,618,100

B. $699,300

C. $359,900

D. $534,600

Sales (2,700 units × $664 per unit)	$1,792,800
Cost of goods sold (2,700 units × $405 per unit)	1,093,500
Gross margin	$699,300

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

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Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

174. Searls Corporation, a merchandising company, reported the following results for July:

Number of units sold	2,700 units
Selling price per unit	$664 per unit
Unit cost of goods sold	$405 per unit
Variable selling expense per unit	$48 per unit
Total fixed selling expense	$56,500
Variable administrative expense per unit	$13 per unit
Total fixed administrative expense	$118,200

Cost of goods sold is a variable cost in this company.

The contribution margin for July is:

A. $534,600

B. $699,300

C. $359,900

D. $1,453,400

Sales (2,700 units × $664 per unit)		$1,792,800
Variable expenses:		
Cost of goods sold (2,700 units × $405 per unit)	$1,093,500	
Variable selling expense (2,700 units × $48 per unit)	129,600	

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Managerial Accounting for Managers 4th edition Noreen Test Bank

Variable administrative expense (2,700 units × $13 per unit)	35,100	1,258,200
Contribution margin		$534,600

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

175. Dechico Corporation purchased a machine 3 years ago for $456,000 when it launched product G92L. Unfortunately, this machine has broken down and cannot be repaired. The machine could be replaced by a new model 330 machine costing $474,000 or by a new model 260 machine costing $418,000. Management has decided to buy the model 260 machine. It has less capacity than the model 330 machine, but its capacity is sufficient to continue making product G92L. Management also considered, but rejected, the alternative of dropping product G92L and not replacing the old machine. If that were done, the $418,000 invested in the new machine could instead have been invested in a project that would have returned a total of $496,000.

In making the decision to buy the model 260 machine rather than the model 330 machine, the differential cost was:

A. $18,000

B. $56,000

C. $38,000

D. $40,000

Differential cost = $474,000 - $418,000 = $56,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Decision Making

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-07 Understand cost classifications used in making decisions: differential costs, opportunity costs, and sunk costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

176. Dechico Corporation purchased a machine 3 years ago for $456,000 when it launched product G92L. Unfortunately, this machine has broken down and cannot be repaired. The machine could be replaced by a new model 330 machine costing $474,000 or by a new model 260 machine costing $418,000. Management has decided to buy the model 260 machine. It has less capacity than the model 330 machine, but its capacity is sufficient to continue making product G92L. Management also considered, but rejected, the alternative of dropping product G92L and not replacing the old machine. If that were done, the $418,000 invested in the new machine could instead have been invested in a project that would have returned a total of $496,000.

In making the decision to buy the model 260 machine rather than the model 330 machine, the sunk cost was:

A. $418,000

B. $456,000

C. $474,000

D. $496,000

Sunk cost = Cost of old machine = $456,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Decision Making

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-07 Understand cost classifications used in making decisions: differential costs, opportunity costs, and sunk costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

177. Dechico Corporation purchased a machine 3 years ago for $456,000 when it launched product G92L. Unfortunately, this machine has broken down and cannot be repaired. The machine could be replaced by a new model 330 machine costing $474,000 or by a new model 260 machine costing $418,000. Management has decided to buy the model 260 machine. It has less capacity than the model 330 machine, but its capacity is sufficient to continue making product G92L. Management also considered, but rejected, the alternative of dropping product G92L and not replacing the old machine. If that were done, the $418,000 invested in the new machine could instead have been invested in a project that would have returned a total of $496,000.

In making the decision to invest in the model 260 machine, the opportunity cost was:

A. $418,000

B. $456,000

C. $474,000

D. $496,000

Opportunity cost = Return from alternative investment = $496,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Decision Making

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-07 Understand cost classifications used in making decisions: differential costs, opportunity costs, and sunk costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

178. Management of Childers Corporation is considering whether to purchase a new model 380 machine costing $278,000 or a new model 230 machine costing $207,000 to replace a machine that was purchased 3 years ago for $266,000. The old machine was used to make product R16K until it broke down last week. Unfortunately, the old machine cannot be repaired.

Management has decided to buy the new model 230 machine. It has less capacity than the new model 380 machine, but its capacity is sufficient to continue making product R16K.

Management also considered, but rejected, the alternative of simply dropping product R16K. If that were done, instead of investing $207,000 in the new machine, the money could be invested in a project that would return a total of $305,000.

In making the decision to buy the model 230 machine rather than the model 380 machine, the sunk cost was:

A. $305,000

B. $266,000

C. $278,000

D. $207,000

Sunk cost = Cost of old machine = $266,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Decision Making

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-07 Understand cost classifications used in making decisions: differential costs, opportunity costs, and sunk costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

179. Management of Childers Corporation is considering whether to purchase a new model 380 machine costing $278,000 or a new model 230 machine costing $207,000 to replace a machine that was purchased 3 years ago for $266,000. The old machine was used to make product R16K until it broke down last week. Unfortunately, the old machine cannot be repaired.

Management has decided to buy the new model 230 machine. It has less capacity than the new model 380 machine, but its capacity is sufficient to continue making product R16K.

Management also considered, but rejected, the alternative of simply dropping product R16K. If that were done, instead of investing $207,000 in the new machine, the money could be invested in a project that would return a total of $305,000.

In making the decision to buy the model 230 machine rather than the model 380 machine, the differential cost was:

A. $71,000

B. $59,000

C. $12,000

D. $39,000

Differential cost = $278,000 - $207,000 = $71,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Decision Making

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-07 Understand cost classifications used in making decisions: differential costs, opportunity costs, and sunk costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

180. Management of Childers Corporation is considering whether to purchase a new model 380 machine costing $278,000 or a new model 230 machine costing $207,000 to replace a machine that was purchased 3 years ago for $266,000. The old machine was used to make product R16K until it broke down last week. Unfortunately, the old machine cannot be repaired.

Management has decided to buy the new model 230 machine. It has less capacity than the new model 380 machine, but its capacity is sufficient to continue making product R16K.

Management also considered, but rejected, the alternative of simply dropping product R16K. If that were done, instead of investing $207,000 in the new machine, the money could be invested in a project that would return a total of $305,000.

In making the decision to invest in the model 230 machine, the opportunity cost was:

A. $278,000

B. $305,000

C. $207,000

D. $266,000

Opportunity cost = Return from alternative investment = $305,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Decision Making

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-07 Understand cost classifications used in making decisions: differential costs, opportunity costs, and sunk costs.

Essay Questions

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181. A number of costs are listed below.

	Cost Description	Cost Object
1.	Cost of a measles vaccine administered at an outpatient clinic at a hospital	The outpatient clinic
2.	Cost of a replacement battery installed in a car at the auto repair shop of an automobile dealer	The auto repair shop
3.	Accounting professor's salary	A particular class
4.	Cost of electronic navigation system installed in a yacht at a yacht manufacturer	A particular yacht
5.	Cost of wiring used in making a personal computer	A particular personal computer
6.	Supervisor's wages in a computer manufacturing facility	A particular personal computer
7.	Cost of lubrication oil used at the auto repair shop of an automobile dealer	The auto repair shop
8.	Cost of heating a hotel run by a chain of hotels	A particular hotel guest
9.	Cost of heating a hotel run by a chain of hotels	The particular hotel
10.	Cost of tongue depressors used in an outpatient clinic at a hospital	A particular patient

Required:

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For each item above, indicate whether the cost is direct or indirect with respect to the cost object listed next to it.

1. Cost of a measles vaccine administered at an outpatient clinic at a hospital; The outpatient clinic; Direct
2. Cost of a replacement battery installed in a car at the auto repair shop of an automobile dealer; The auto repair shop; Direct
3. Accounting professor's salary; A particular class; Indirect
4. Cost of electronic navigation system installed in a yacht at a yacht manufacturer; A particular yacht; Direct
5. Cost of wiring used in making a personal computer; A particular personal computer; Indirect
6. Supervisor's wages in a computer manufacturing facility; A particular personal computer; Indirect
7. Cost of lubrication oil used at the auto repair shop of an automobile dealer; The auto repair shop; Direct
8. Cost of heating a hotel run by a chain of hotels; A particular hotel guest; Indirect
9. Cost of heating a hotel run by a chain of hotels; The particular hotel; Direct
10. Cost of tongue depressors used in an outpatient clinic at a hospital; A particular patient; Indirect

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-01 Understand cost classifications used for assigning costs to cost objects: direct costs and indirect costs.

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182. The Plastechnics Company began operations several years ago. The company's product requires materials that cost $25 per unit. The company employs a production supervisor whose salary is $2,000 per month. Production line workers are paid $15 per hour to manufacture and assemble the product. The company rents the equipment needed to produce the product at a rental cost of $1,500 per month. The building is depreciated on the straight-line basis at $9,000 per year.

The company spends $40,000 per year to market the product. Shipping costs for each unit are $20 per unit.

The company plans to liquidate several investments in order to expand production. These investments currently earn a return of $8,000 per year.

Required:

Complete the answer sheet below by placing an "X" under each heading that identifies the cost involved. The "Xs" can be placed under more than one heading for a single cost, e.g., a cost might be a sunk cost, an overhead cost, and a product cost.

	Variable Cost	Fixed Cost	Direct Materials Cost	Direct Materials Cost	Direct Labor Cost	Manufacturing Overhead Cost	Period Cost	Opportunity Cost	Sunk Cost
Materials									
Production supervisor salary									
Production line worker wages									
Equipment rental									
Building depreciation									

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Marketing costs									
Shipping cost									
Return on present investments									

	Variable Cost	Fixed Cost	Direct Materials Cost	Direct Materials Cost	Direct Labor Cost	Manufacturing Overhead Cost	Period Cost	Opportunity Cost	Sunk Cost
Materials	X			X					
Production supervisor salary		X				X			
Production line worker wages	X				X				
Equipment rental		X				X			
Building depreciation		X				X			
Marketing costs		X					X		
Shipping cost	X						X		
Return on present								X	

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investments									

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Decision Making

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-02 Identify and give examples of each of the three basic manufacturing cost categories.

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-07 Understand cost classifications used in making decisions: differential costs, opportunity costs, and sunk costs.

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183. A partial listing of costs incurred at Falkenberg Corporation during October appears below:

Direct materials	$195,000
Utilities, factory	$9,000
Sales commissions	$75,000
Administrative salaries	$113,000
Indirect labor	$30,000
Advertising	$119,000
Depreciation of production equipment	$28,000
Direct labor	$105,000
Depreciation of administrative equipment	$44,000

Required:

a. What is the total amount of product cost listed above? Show your work.

b. What is the total amount of period cost listed above? Show your work.

a. Product costs consist of direct materials, direct labor, and manufacturing overhead:

Direct materials		$195,000
Direct labor		105,000
Manufacturing overhead:		
Utilities, factory	$9,000	
Indirect labor	30,000	
Depreciation of production equipment	28,000	67,000
Total product cost		$367,000

b. Period costs consist of all costs other than product costs:

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Sales commissions	$75,000
Administrative salaries	113,000
Advertising	119,000
Depreciation of administrative equipment	44,000
Total period cost	$351,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

184. Sobota Corporation has provided the following partial listing of costs incurred during August:

Marketing salaries	$49,000
Property taxes, factory	$7,000
Administrative travel	$104,000
Sales commissions	$49,000
Indirect labor	$38,000
Direct materials	$138,000
Advertising	$76,000
Depreciation of production equipment	$54,000
Direct labor	$89,000

Required:

a. What is the total amount of product cost listed above? Show your work.

b. What is the total amount of period cost listed above? Show your work.

a. Product costs consist of direct materials, direct labor, and manufacturing overhead:

Direct materials		$138,000
Direct labor		89,000
Manufacturing overhead:		
Property taxes, factory	$7,000	
Indirect labor	38,000	
Depreciation of production equipment	54,000	99,000
Total product cost		$326,000

b. Period costs consist of all costs other than product costs:

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Marketing salaries	$49,000
Administrative travel	104,000
Sales commissions	49,000
Advertising	76,000
Total period cost	$278,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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185. Stony Electronics Corporation manufactures a portable radio designed for mounting on the wall of the bathroom. The following list represents some of the different types of costs incurred in the manufacture of these radios:

1. The plant manager's salary.
2. The cost of heating the plant.
3. The cost of heating executive offices.
4. The cost of printed circuit boards used in the radios.
5. Salaries and commissions of company salespersons.
6. Depreciation on office equipment used in the executive offices.
7. Depreciation on production equipment used in the plant.
8. Wages of janitorial personnel who clean the plant.
9. The cost of insurance on the plant building.
10. The cost of electricity to light the plant.
11. The cost of electricity to power plant equipment.
12. The cost of maintaining and repairing equipment in the plant.
13. The cost of printing promotional materials for trade shows.
14. The cost of solder used in assembling the radios.
15. The cost of telephone service for the executive offices.

Required:

Classify each of the items above as product (inventoriable) cost or period (noninventoriable) cost for the purpose of preparing external financial statements.

1. Product.
2. Product.
3. Period.
4. Product.
5. Period.
6. Period.

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7. Product.

8. Product.

9. Product.

10. Product.

11. Product.

12. Product.

13. Period.

14. Product.

15. Period.

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Blooms: Understand

Difficulty: 1 Easy

Learning Objective: 02-03 Understand cost classifications used to prepare financial statements: product costs and period costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

186. A number of costs and measures of activity are listed below.

	Cost Description	Possible Measure of Activity
1.	Cost of renting production equipment on a monthly basis at a surfboard manufacturer	Surfboards produced
2.	Cost of shipping bags of garden mulch to a retail garden store	Bags shipped
3.	Building rent at a sandwich shop	Dollar sales
4.	Cost of hard disk installed in a computer	Number of computers assembled
5.	Cost of fresh vegetables used at a sandwich shop	Dollar sales
6.	Janitorial wages at a surfboard manufacturer	Surfboards produced
7.	Cost of advertising at a surfboard company	Surfboards sold
8.	Clinical supplies at a doctor's office	Number of patients
9.	Cost of leasing checkout equipment on a monthly basis at an electronics store	Dollar sales
10.	Cost of heating an electronics store	Dollar sales

Required:

For each item above, indicate whether the cost is MAINLY fixed or variable with respect to the

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possible measure of activity listed next to it.

1. Cost of renting production equipment on a monthly basis at a surfboard manufacturer; Surfboards produced; Fixed
2. Cost of shipping bags of garden mulch to a retail garden store; Bags shipped; Variable
3. Building rent at a sandwich shop; Dollar sales; Fixed
4. Cost of hard disk installed in a computer; Number of computers assembled; Variable
5. Cost of fresh vegetables used at a sandwich shop; Dollar sales; Variable
6. Janitorial wages at a surfboard manufacturer; Surfboards produced; Fixed
7. Cost of advertising at a surfboard company; Surfboards sold; Fixed
8. Clinical supplies at a doctor's office; Number of patients; Variable
9. Cost of leasing checkout equipment on a monthly basis at an electronics store; Dollar sales; Fixed
10. Cost of heating an electronics store; Dollar sales; Fixed

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Blooms: Analyze

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

187. A number of costs and measures of activity are listed below.

	Cost Description	Possible Measure of Activity
1.	Cost of cement used to produce cinder blocks	Cinder blocks produced
2.	Cost of leasing checkout equipment on a monthly basis at a hardware store	Dollar sales
3.	Cost of vaccine used at a clinic	Vaccines administered
4.	Salary of the staff chaplain at a hospital	Number of patients
5.	Windshield wiper blades installed on autos at an auto assembly plant	Number of autos assembled
6.	Lease cost of equipment at a dentist's office	Number of patients
7.	Interest expense on corporate debt	Dollar sales
8.	Cost of renting production equipment on a monthly basis at a snowboard manufacturer	Snowboards produced
9.	Cost of advertising at a snowboard company	Snowboards sold
10	Cook's wages at a taco shop	Dollar sales

Required:

For each item above, indicate whether the cost is MAINLY fixed or variable with respect to the possible measure of activity listed next to it.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

1. Cost of cement used to produce cinder blocks; Cinder blocks produced; Variable

2. Cost of leasing checkout equipment on a monthly basis at a hardware store; Dollar sales; Fixed

3. Cost of vaccine used at a clinic; Vaccines administered; Variable

4. Salary of the staff chaplain at a hospital; Number of patients; Fixed

5. Windshield wiper blades installed on autos at an auto assembly plant; Number of autos assembled; Variable

6. Lease cost of equipment at a dentist's office; Number of patients; Fixed

7. Interest expense on corporate debt; Dollar sales; Fixed

8. Cost of renting production equipment on a monthly basis at a snowboard manufacturer; Snowboards produced; Fixed

9. Cost of advertising at a snowboard company; Snowboards sold; Fixed

10. Cook's wages at a taco shop; Dollar sales; Fixed

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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Managerial Accounting for Managers 4th edition Noreen Test Bank

188. Younger Corporation reports that at an activity level of 8,700 units, its total variable cost is $653,109 and its total fixed cost is $658,416.

Required:

For the activity level of 8,800 units, compute: (a) the total variable cost; (b) the total fixed cost; (c) the total cost; (d) the average variable cost per unit; (e) the average fixed cost per unit; and (f) the average total cost per unit. Assume that this activity level is within the relevant range.

Variable cost = $653,109 ÷ 8,700 units = $75.07 per unit

Activity level	8,800
Total cost:	
Variable cost (a) [8,800 units × $75.07 per unit]	$660,616
Fixed cost (b)	658,416
Total (c)	$1,319,032
Cost per unit:	
Variable cost (d)	$75.07
Fixed cost (e) [$658,416 ÷ 8,800 units]	74.82
Total (f)	$149.89

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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189. Shaw Supply Company sells a single product and has the following average costs at a sales level of 15,000 units:

Variable cost per unit	$2.45
Fixed cost per unit	4.75
Total cost per unit	$7.20

Required:

Determine the following amounts at a sales level of 18,000 units:

a. Total variable cost

b. Total fixed cost

c. Variable cost per unit

d. Fixed cost per unit

e. Total cost per unit

Total fixed cost = $4.75 per unit × 15,000 units = $71,250

a. Total variable cost = $2.45 per unit × 18,000 units = $44,100

b. Total fixed cost = $71,250

c. Variable cost per unit = $2.45 per unit

d. Fixed cost per unit = $71,250 ÷ 18,000 units = $3.96 per unit

e. Total cost per unit = ($71,250 + $44,100) ÷ 18,000 units = $6.41 per unit

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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190. At an activity level of 8,800 units, Pember Corporation's total variable cost is $146,520 and its total fixed cost is $219,296.

Required:

For the activity level of 8,900 units, compute: (a) the total variable cost; (b) the total fixed cost; (c) the total cost; (d) the average variable cost per unit; (e) the average fixed cost per unit; and (f) the average total cost per unit. Assume that this activity level is within the relevant range.

Variable cost = $146,520 ÷ 8,800 units = $16.65 per unit

Activity level	8,900
Total cost:	
Variable cost (a) [8,900 units × $16.65 per unit]	$148,185
Fixed cost (b)	219,296
Total (c)	$367,481
Cost per unit:	
Variable cost (d)	$16.65
Fixed cost (e) [$219,296 ÷ 8,900 units]	24.64
Total (f)	$41.29

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Blooms: Apply

Difficulty: 1 Easy

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

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191. Cosgrove, Inc., is a wholesaler that distributes a single product. The company's revenues and expenses for the last three months are given below:

Cosgrove Company Traditional Format Income Statement For the Three Months Ended June 30			
	April	May	June
Sales in units	3,000	3,750	4,500
Sales revenue	$420,000	$525,000	$630,000
Cost of goods sold	168,000	210,000	252,000
Gross margin	252,000	315,000	378,000
Selling and administrative expenses:			
Shipping expense	44,000	50,000	56,000
Advertising expense	70,000	70,000	70,000
Salaries and commissions	107,000	125,000	143,000
Insurance expense	9,000	9,000	9,000
Depreciation expense	42,000	42,000	42,000
Total selling and administrative expense	272,000	296,000	320,000
Net operating income (loss)	($20,000)	$19,000	$58,000

Required:

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a. Determine which expenses are mixed and, by use of the high-low method, separate each mixed expense into variable and fixed elements. (Use unit sales as the activity measure.) State the cost formula for each mixed expense.

b. Compute the company's contribution margin for May.

a. The Cost of Goods Sold is always $56 per unit and is therefore strictly variable. The total Advertising, Insurance, and Depreciation expenses are fixed. Only the Shipping and the Salaries and Commissions Expenses are mixed.

Shipping Expense:

Variable cost per unit = Change in cost ÷ Change in activity

= ($56,000 - $44,000) ÷ (4,500 units - 3,000 units)

= $12,000 ÷ 1,500 units

= $8 per unit

Fixed cost = Total cost - Total variable cost

= $56,000 - (4,500 units × $8 per unit)

= $20,000

Cost formula: Y = $20,000 + $8X.

Salaries and Commissions:

Variable cost per unit = Change in cost ÷ Change in activity

= ($143,000 - $107,000) ÷ (4,500 units - 3,000 units)

= $36,000 ÷ 1,500 units

= $24 per unit

Fixed cost = Total cost - Total variable cost

= $143,000 - (4,500 units × $24 per unit)

= $35,000

Cost formula: Y = $35,000 + $24X.

b.

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Sales revenue		$525,000
Variable expenses:		
Cost of goods sold	$210,000	
Shipping expense (3,750 units × $8 per unit)	30,000	
Salaries & Commissions (3,750 units × $24 per unit)	90,000	330,000
Contribution margin		$195,000

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-04 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

Learning Objective: 02-06 Prepare income statements for a merchandising company using the traditional and contribution formats.

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Appendix 2A

Least Squares Regression Computations

True / False Questions

1. (Appendix 2A) The R^2 (i.e., R-squared) is a measure of the goodness-of-fit in least-squares regression.

   True False

2. (Appendix 2A) When analyzing a mixed cost, you should always plot the data in a scattergraph, but it is particularly important to check the data visually on a scattergraph when the R^2 from a least squares regression is low. A quick look at the scattergraph can reveal that there is little relation between the cost and the activity or that the relation is something other than a simple straight line.

   True False

Multiple Choice Questions

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3. (Appendix 2A) _____ is a method of separating a mixed cost into its fixed and variable elements by fitting a line to the data that minimizes the sum of the squared errors.

A. Account analysis

B. Scattergraph

C. High-low

D. Least-square regression

4. (Appendix 2A) Your boss would like you to estimate the fixed and variable components of a particular cost. Actual data for this cost over four recent periods appear below.

	Activity	Cost
Period 1	24	$174
Period 2	25	$179
Period 3	20	$165
Period 4	22	$169

Using the least-squares regression method, what is the cost formula for this cost?

A. Y = $0.00 + $7.55X

B. Y = $110.44 + $2.70X

C. Y = $103.38 + $3.00X

D. Y = $113.35 + $0.89X

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5. (Appendix 2A) The management of Bandle Corporation would like for you to analyze their repair costs, which are listed below:

	Machine-Hours	Repair Costs
March	6,966	$102,067
April	6,952	$101,966
May	6,924	$101,759
June	6,967	$102,072
July	6,963	$102,027
August	6,996	$102,243
September	6,964	$102,031
October	6,926	$101,776

Management believes that repair cost is a mixed cost that depends on the number of machine-hours. Using the least-squares regression method, the estimates of the variable and fixed components of repair cost would be closest to:

A. $6.72 per machine-hour plus $55,230 per month

B. $6.80 per machine-hour plus $54,679 per month

C. $7.28 per machine-hour plus $51,389 per month

D. $14.66 per machine-hour plus $101,993 per month

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6. (Appendix 2A) Laborn Inc.'s inspection costs are listed below:

	Units Produced	Inspection Costs
March	265	$11,254
April	248	$10,684
May	272	$11,516
June	235	$10,210
July	207	$9,258
August	217	$9,578
September	261	$11,108
October	274	$11,578

Management believes that inspection cost is a mixed cost that depends on the number of units produced. Using the least-squares regression method, the estimates of the variable and fixed components of inspection cost would be closest to:

A. $43.04 per unit plus $10,648 per month

B. $34.63 per unit plus $2,089 per month

C. $34.78 per unit plus $2,044 per month

D. $36.00 per unit plus $1,714 per month

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7. (Appendix 2A) Donner Company would like to estimate the variable and fixed components of its maintenance costs and has compiled the following data for the last five months of operations.

	Labor Hours	Maintenance Cost
January	160	$617
February	130	$553
March	180	$596
April	190	$623
May	110	$532

Using the high-low method of analysis, the estimated variable cost per labor hour for maintenance is closest to:

A. $0.83

B. $1.84

C. $1.30

D. $1.14

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8. (Appendix 2A) Donner Company would like to estimate the variable and fixed components of its maintenance costs and has compiled the following data for the last five months of operations.

	Labor Hours	Maintenance Cost
January	160	$617
February	130	$553
March	180	$596
April	190	$623
May	110	$532

Using the high-low method of analysis, the estimated total fixed cost per month for maintenance is closest to:

A. $440

B. $407

C. $470

D. $0

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9. (Appendix 2A) Donner Company would like to estimate the variable and fixed components of its maintenance costs and has compiled the following data for the last five months of operations.

	Labor Hours	Maintenance Cost
January	160	$617
February	130	$553
March	180	$596
April	190	$623
May	110	$532

(Appendix 2A) Using the least-squares regression method, the estimated variable cost per labor hour for maintenance is closest to:

A. $1.88

B. $1.52

C. $1.09

D. $1.96

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10. (Appendix 2A) Donner Company would like to estimate the variable and fixed components of its maintenance costs and has compiled the following data for the last five months of operations.

	Labor Hours	Maintenance Cost
January	160	$617
February	130	$553
March	180	$596
April	190	$623
May	110	$532

(Appendix 2A) Using the least-squares regression method, the estimated total fixed cost per month for maintenance is closest to:

A. $470

B. $416

C. $400

D. $378

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11. (Appendix 2A) Donner Company would like to estimate the variable and fixed components of its maintenance costs and has compiled the following data for the last five months of operations.

	Labor Hours	Maintenance Cost
January	160	$617
February	130	$553
March	180	$596
April	190	$623
May	110	$532

(Appendix 2A) Using the least-squares regression equation, the total maintenance cost for March is:

A. above the regression line.

B. on the regression line.

C. below the regression line.

D. outside the relevant range.

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12. (Appendix 2A) Recent maintenance costs of Gallander Corporation are listed below:

	Machine-Hours	Maintenance Costs
April	727	$7,269
May	725	$7,290
June	720	$7,273
July	641	$7,130
August	671	$7,208
September	728	$7,291
October	710	$7,260
November	707	$7,231

Management believes that maintenance cost is a mixed cost that depends on machine-hours.

Using the least-squares regression method, the estimate of the variable component of maintenance cost per machine-hour is closest to:

A. $1.85

B. $10.30

C. $1.67

D. $1.90

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13. (Appendix 2A) Recent maintenance costs of Gallander Corporation are listed below:

	Machine-Hours	Maintenance Costs
April	727	$7,269
May	725	$7,290
June	720	$7,273
July	641	$7,130
August	671	$7,208
September	728	$7,291
October	710	$7,260
November	707	$7,231

Management believes that maintenance cost is a mixed cost that depends on machine-hours.

Using the least-squares regression method, the estimate of the fixed component of maintenance cost per month is closest to:

A. $6,066

B. $7,244

C. $5,944

D. $7,130

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14. (Appendix 2A) Cespedes Inc.'s inspection costs are listed below:

	Units Produced	Inspection Costs
March	659	$10,550
April	628	$10,380
May	643	$10,462
June	678	$10,655
July	622	$10,342
August	656	$10,531
September	694	$10,731
October	662	$10,566

Management believes that inspection cost is a mixed cost that depends on units produced.

Using the least-squares regression method, the estimate of the variable component of inspection cost per unit produced is closest to:

A. $5.40

B. $5.33

C. $5.43

D. $16.07

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15. (Appendix 2A) Cespedes Inc.'s inspection costs are listed below:

	Units Produced	Inspection Costs
March	659	$10,550
April	628	$10,380
May	643	$10,462
June	678	$10,655
July	622	$10,342
August	656	$10,531
September	694	$10,731
October	662	$10,566

Management believes that inspection cost is a mixed cost that depends on units produced.

Using the least-squares regression method, the estimate of the fixed component of inspection cost per month is closest to:

A. $6,983

B. $10,342

C. $10,527

D. $6,972

Essay Questions

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16. (Appendix 2A) CPE for CPAs, Inc., provides continuing professional education for certified public accountants. The company is relatively new and management is seeking information regarding the company's cost structure. The following information has been gathered for the first six months of the current year:

	Seminars Offered	Costs Incurred
January	8	$15,200
February	10	$17,000
March	13	$19,400
April	16	$21,800
May	14	$20,000
June	11	$18,200

Required:

a. Using the high-low method, estimate the variable cost per seminar and the total fixed cost per month.

b. Using the least-squares regression method, estimate the variable cost per seminar and the total fixed cost per month.

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17. (Appendix 2A) The management of Buff Sports Stadium believes that the number of sporting events each month is an measure of activity for total clean-up cost. Shown below are event figures and total clean up costs for the past four months:

	Number of Sporting Events	Total Clean-up Cost
July	28	$30,900
August	34	$34,200
September	16	$20,700
October	22	$28,200

Required:

a. Estimate Buff's cost formula for monthly clean-up cost using the high-low method.

b. Estimate Buff's cost formula for monthly clean-up cost using the least-squares regression method.

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18. (Appendix 2A) Sablan Inc. maintains a call center to take orders, answer questions, and handle complaints. The costs of the call center for a number of recent months are listed below:

	Calls Taken	Call Center Cost
January	3,893	$96,896
February	3,856	$96,675
March	3,827	$96,519
April	3,892	$96,880
May	3,867	$96,730
June	3,874	$96,783
July	3,881	$96,797
August	3,877	$96,780

Management believes that the cost of the call center is a mixed cost that depends on the number of calls taken.

Required:

Estimate the variable cost per call and fixed cost per month using the least-squares regression method.

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19. (Appendix 2A) Below are cost and activity data for a particular cost over the last four periods. Your boss has asked you to analyze this cost so that management will have a better understanding of how this cost changes in response to changes in activity.

	Activity	Cost
Period 1	44	$277
Period 2	42	$265
Period 3	48	$284
Period 4	49	$284

Required:

Using the least-squares regression method, estimate the cost formula for this cost.

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20. (Appendix 2A) Escalona Printing Corp., a book printer, has provided the following data:

	Titles Printed	Press Setup Cost
February	20	$3,405
March	31	$4,277
April	18	$3,281
May	28	$4,040
June	34	$4,535
July	22	$3,561
August	33	$4,451
September	23	$3,637

Management believes that the press setup cost is a mixed cost that depends on the number of titles printed. (A specific book that is to be printed is called a "title". Typically, thousands of copies will be printed of each title. Specific steps must be taken to setup the presses for printing each title-for example, changing the printing plates. The costs of these steps are the press setup costs.)

Required:

Estimate the variable cost per title printed and the fixed cost per month using the least-squares regression method.

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21. (Appendix 2A) The management of Sambrano Corporation would like to better understand the behavior of the company's warranty costs. Those costs are listed below for a number of recent months:

	Product Returns	Warranty Cost
January	17	$4,106
February	28	$4,560
March	21	$4,280
April	24	$4,399
May	27	$4,528
June	20	$4,239
July	18	$4,144
August	30	$4,642

Management believes that warranty cost is a mixed cost that depends on the number of product returns.

Required:

Estimate the variable cost per product return and the fixed cost per month using the least-squares regression method.

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Appendix 2A Least Squares Regression Computations Answer Key

True / False Questions

1. (Appendix 2A) The R^2 (i.e., R-squared) is a measure of the goodness-of-fit in least-squares regression.

   TRUE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Remember
Difficulty: 1 Easy
Learning Objective: 02-08 (Appendix 2A) Analyze a mixed cost using a scattergraph plot and the least-squares regression method.

2. (Appendix 2A) When analyzing a mixed cost, you should always plot the data in a scattergraph, but it is particularly important to check the data visually on a scattergraph when the R^2 from a least squares regression is low. A quick look at the scattergraph can reveal that there is little relation between the cost and the activity or that the relation is something other than a simple straight line.

   TRUE

AACSB: Reflective Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Remember

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Difficulty: 1 Easy

Learning Objective: 02-08 (Appendix 2A) Analyze a mixed cost using a scattergraph plot and the least-squares regression method.

Multiple Choice Questions

3. (Appendix 2A) _____ is a method of separating a mixed cost into its fixed and variable elements by fitting a line to the data that minimizes the sum of the squared errors.

A. Account analysis

B. Scattergraph

C. High-low

D. Least-square regression

AACSB: Reflective Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Remember

Difficulty: 1 Easy

Learning Objective: 02-08 (Appendix 2A) Analyze a mixed cost using a scattergraph plot and the least-squares regression method.

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4. (Appendix 2A) Your boss would like you to estimate the fixed and variable components of a particular cost. Actual data for this cost over four recent periods appear below.

	Activity	Cost
Period 1	24	$174
Period 2	25	$179
Period 3	20	$165
Period 4	22	$169

Using the least-squares regression method, what is the cost formula for this cost?

A. Y = $0.00 + $7.55X

B. Y = $110.44 + $2.70X

C. Y = $103.38 + $3.00X

D. Y = $113.35 + $0.89X

Using Microsoft Excel, the slope and intercept are:

Intercept	$110.44	Fixed cost
Slope	$2.70	Variable cost
RSQ	0.967	

Therefore, the cost formula is $110.44 per activity plus $2.70 per unit or:

Y = $110.44 + $2.70X

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

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Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-08 (Appendix 2A) Analyze a mixed cost using a scattergraph plot and the least-squares regression method.

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5. (Appendix 2A) The management of Bandle Corporation would like for you to analyze their repair costs, which are listed below:

	Machine-Hours	Repair Costs
March	6,966	$102,067
April	6,952	$101,966
May	6,924	$101,759
June	6,967	$102,072
July	6,963	$102,027
August	6,996	$102,243
September	6,964	$102,031
October	6,926	$101,776

Management believes that repair cost is a mixed cost that depends on the number of machine-hours. Using the least-squares regression method, the estimates of the variable and fixed components of repair cost would be closest to:

A. $6.72 per machine-hour plus $55,230 per month

B. $6.80 per machine-hour plus $54,679 per month

C. $7.28 per machine-hour plus $51,389 per month

D. $14.66 per machine-hour plus $101,993 per month

Using Microsoft Excel, the solution is:

Intercept	$54,679	Fixed cost
Slope	$6.80	Variable cost
RSQ	0.9956	

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

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AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-08 (Appendix 2A) Analyze a mixed cost using a scattergraph plot and the least-squares regression method.

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6. (Appendix 2A) Laborn Inc.'s inspection costs are listed below:

	Units Produced	Inspection Costs
March	265	$11,254
April	248	$10,684
May	272	$11,516
June	235	$10,210
July	207	$9,258
August	217	$9,578
September	261	$11,108
October	274	$11,578

Management believes that inspection cost is a mixed cost that depends on the number of units produced. Using the least-squares regression method, the estimates of the variable and fixed components of inspection cost would be closest to:

A. $43.04 per unit plus $10,648 per month

B. $34.63 per unit plus $2,089 per month

C. $34.78 per unit plus $2,044 per month

D. $36.00 per unit plus $1,714 per month

Using Microsoft Excel, the solution is:

Intercept	$2,044	Fixed cost
Slope	$34.78	Variable cost
RSQ	1.00	

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

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Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-08 (Appendix 2A) Analyze a mixed cost using a scattergraph plot and the least-squares regression method.

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7. (Appendix 2A) Donner Company would like to estimate the variable and fixed components of its maintenance costs and has compiled the following data for the last five months of operations.

	Labor Hours	Maintenance Cost
January	160	$617
February	130	$553
March	180	$596
April	190	$623
May	110	$532

Using the high-low method of analysis, the estimated variable cost per labor hour for maintenance is closest to:

A. $0.83

B. $1.84

C. $1.30

D. $1.14

	Labor Hours	Maintenance Cost
High activity level (April)	190	$623
Low activity level (May)	110	$532
Change	80	$91

Variable cost = Change in cost ÷ Change in activity = $91 ÷ 80 labor hours = $1.1375 per labor hour

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AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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8. (Appendix 2A) Donner Company would like to estimate the variable and fixed components of its maintenance costs and has compiled the following data for the last five months of operations.

	Labor Hours	Maintenance Cost
January	160	$617
February	130	$553
March	180	$596
April	190	$623
May	110	$532

Using the high-low method of analysis, the estimated total fixed cost per month for maintenance is closest to:

A. $440

B. $407

C. $470

D. $0

	Labor Hours	Maintenance Cost
High activity level (April)	190	$623
Low activity level (May)	110	$532
Change	80	$91

Variable cost = Change in cost ÷ Change in activity = $91 ÷ 80 labor hours = $1.1375 per labor hour

Fixed cost = Total cost - Variable cost

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Fixed cost = $623 - ($1.1375 per labor hour × 190 labor hours) = $406.875

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

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9. (Appendix 2A) Donner Company would like to estimate the variable and fixed components of its maintenance costs and has compiled the following data for the last five months of operations.

	Labor Hours	Maintenance Cost
January	160	$617
February	130	$553
March	180	$596
April	190	$623
May	110	$532

(Appendix 2A) Using the least-squares regression method, the estimated variable cost per labor hour for maintenance is closest to:

A. $1.88

B. $1.52

C. $1.09

D. $1.96

The regression line is Y = 415.69 + 1.0942X and the R^2 is 0.8432

Therefore, the variable cost per labor hour for maintenance is closest to $1.09.

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-08 (Appendix 2A) Analyze a mixed cost using a scattergraph plot and the least-squares regression method.

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10. (Appendix 2A) Donner Company would like to estimate the variable and fixed components of its maintenance costs and has compiled the following data for the last five months of operations.

	Labor Hours	Maintenance Cost
January	160	$617
February	130	$553
March	180	$596
April	190	$623
May	110	$532

(Appendix 2A) Using the least-squares regression method, the estimated total fixed cost per month for maintenance is closest to:

A. $470

B. $416

C. $400

D. $378

The regression line is Y = 415.69 + 1.0942X and the R^2 is 0.8432

Therefore, the fixed cost for maintenance is closest to $416.

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-08 (Appendix 2A) Analyze a mixed cost using a scattergraph plot and the least-squares regression method.

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11. (Appendix 2A) Donner Company would like to estimate the variable and fixed components of its maintenance costs and has compiled the following data for the last five months of operations.

	Labor Hours	Maintenance Cost
January	160	$617
February	130	$553
March	180	$596
April	190	$623
May	110	$532

(Appendix 2A) Using the least-squares regression equation, the total maintenance cost for March is:

A. above the regression line.
B. on the regression line.
C. below the regression line.
D. outside the relevant range.

The regression line is Y = 415.69 + 1.0942X. In March, X is 180 and therefore Y is: Y = 415.69 + (1.0942 × 180) = $612.646. The actual maintenance cost for March was $596, which is less than $612.646. Therefore, the total maintenance cost for March is below the regression line.

AACSB: Analytical Thinking
AICPA: BB Critical Thinking
AICPA: FN Measurement
Accessibility: Keyboard Navigation
Blooms: Apply
Difficulty: 3 Hard
Learning Objective: 02-08 (Appendix 2A) Analyze a mixed cost using a scattergraph plot and the least-squares regression method.

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12. (Appendix 2A) Recent maintenance costs of Gallander Corporation are listed below:

	Machine-Hours	Maintenance Costs
April	727	$7,269
May	725	$7,290
June	720	$7,273
July	641	$7,130
August	671	$7,208
September	728	$7,291
October	710	$7,260
November	707	$7,231

Management believes that maintenance cost is a mixed cost that depends on machine-hours.

Using the least-squares regression method, the estimate of the variable component of maintenance cost per machine-hour is closest to:

A. $1.85

B. $10.30

C. $1.67

D. $1.90

Using Microsoft Excel functions, the solution is:

Maintenance cost per machine-hour = Slope = $1.67

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

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Learning Objective: 02-08 (Appendix 2A) Analyze a mixed cost using a scattergraph plot and the least-squares regression method.

13. (Appendix 2A) Recent maintenance costs of Gallander Corporation are listed below:

	Machine-Hours	Maintenance Costs
April	727	$7,269
May	725	$7,290
June	720	$7,273
July	641	$7,130
August	671	$7,208
September	728	$7,291
October	710	$7,260
November	707	$7,231

Management believes that maintenance cost is a mixed cost that depends on machine-hours.

Using the least-squares regression method, the estimate of the fixed component of maintenance cost per month is closest to:

A. $6,066

B. $7,244

C. $5,944

D. $7,130

Using Microsoft Excel functions, the solution is:

Fixed maintenance cost per month = Intercept = $6,066

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AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

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Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-08 (Appendix 2A) Analyze a mixed cost using a scattergraph plot and the least-squares regression method.

14. (Appendix 2A) Cespedes Inc.'s inspection costs are listed below:

	Units Produced	Inspection Costs
March	659	$10,550
April	628	$10,380
May	643	$10,462
June	678	$10,655
July	622	$10,342
August	656	$10,531
September	694	$10,731
October	662	$10,566

Management believes that inspection cost is a mixed cost that depends on units produced.

Using the least-squares regression method, the estimate of the variable component of inspection cost per unit produced is closest to:

A. $5.40

B. $5.33

C. $5.43

D. $16.07

Using Microsoft Excel functions, the solution is:

Variable cost per unit produced = Slope = $5.43

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AICPA: BB Critical Thinking

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AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-08 (Appendix 2A) Analyze a mixed cost using a scattergraph plot and the least-squares regression method.

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15. (Appendix 2A) Cespedes Inc.'s inspection costs are listed below:

	Units Produced	Inspection Costs
March	659	$10,550
April	628	$10,380
May	643	$10,462
June	678	$10,655
July	622	$10,342
August	656	$10,531
September	694	$10,731
October	662	$10,566

Management believes that inspection cost is a mixed cost that depends on units produced.

Using the least-squares regression method, the estimate of the fixed component of inspection cost per month is closest to:

A. $6,983

B. $10,342

C. $10,527

D. $6,972

Using Microsoft Excel functions, the solution is:

Fixed cost per month = Intercept = $6,972

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Accessibility: Keyboard Navigation

Blooms: Apply

Difficulty: 2 Medium

Learning Objective: 02-08 (Appendix 2A) Analyze a mixed cost using a scattergraph plot and the least-squares regression

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method.

Essay Questions

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16. (Appendix 2A) CPE for CPAs, Inc., provides continuing professional education for certified public accountants. The company is relatively new and management is seeking information regarding the company's cost structure. The following information has been gathered for the first six months of the current year:

	Seminars Offered	Costs Incurred
January	8	$15,200
February	10	$17,000
March	13	$19,400
April	16	$21,800
May	14	$20,000
June	11	$18,200

Required:

a. Using the high-low method, estimate the variable cost per seminar and the total fixed cost per month.

b. Using the least-squares regression method, estimate the variable cost per seminar and the total fixed cost per month.

a. High-Low Method

	Seminars Offered	Costs Incurred
High activity level (April)	16	$21,800
Low activity level (January)	8	15,200
Change	8	$6,600

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Variable cost = Change in cost ÷ Change in activity

Variable cost = $6,600 ÷ 8 seminars = $825 per seminar

Fixed cost = Total cost - Variable cost

Fixed cost = $21,800 - (16 seminars × $825 per seminar) = $8,600

Y = $8,600 + $825X

b. Least-squares regression method

Using Microsoft Excel functions, the estimates are:

Variable cost per seminar = Slope = $9,000

Total fixed cost per month = Intercept = $800

Y = $9,000 + $800X

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

Learning Objective: 02-08 (Appendix 2A) Analyze a mixed cost using a scattergraph plot and the least-squares regression method.

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17. (Appendix 2A) The management of Buff Sports Stadium believes that the number of sporting events each month is an measure of activity for total clean-up cost. Shown below are event figures and total clean up costs for the past four months:

	Number of Sporting Events	Total Clean-up Cost
July	28	$30,900
August	34	$34,200
September	16	$20,700
October	22	$28,200

Required:

a. Estimate Buff's cost formula for monthly clean-up cost using the high-low method.

b. Estimate Buff's cost formula for monthly clean-up cost using the least-squares regression method.

	Number of Sporting Events	Total Clean-Up Cost
High activity level (August)	34	$34,200
Low activity level (September)	16	$20,700
Change	18	$13,500

Variable cost = Change in cost ÷ Change in activity

Variable cost = $13,500 ÷ 18 events = $750 per event

Fixed cost = Total cost - Variable cost

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Fixed cost = $34,200 - ($750 per event × 34 events) = $8,700

Y = $8,700 + $750X

b. Least-squares regression method

Using Microsoft Excel functions, the estimates are:

Variable cost per seminar = Slope = $720

Total fixed cost per month = Intercept = $10,500

Y = $10,500 + $720X

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-05 Analyze a mixed cost using a scattergraph plot and the high-low method.

Learning Objective: 02-08 (Appendix 2A) Analyze a mixed cost using a scattergraph plot and the least-squares regression method.

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18. (Appendix 2A) Sablan Inc. maintains a call center to take orders, answer questions, and handle complaints. The costs of the call center for a number of recent months are listed below:

	Calls Taken	Call Center Cost
January	3,893	$96,896
February	3,856	$96,675
March	3,827	$96,519
April	3,892	$96,880
May	3,867	$96,730
June	3,874	$96,783
July	3,881	$96,797
August	3,877	$96,780

Management believes that the cost of the call center is a mixed cost that depends on the number of calls taken.

Required:

Estimate the variable cost per call and fixed cost per month using the least-squares regression method.

Using Microsoft Excel functions, the solution is:

Variable cost per call = Slope = $5.56

Fixed cost per month = Intercept = $75,218

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AICPA: BB Critical Thinking

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AICPA: FN Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-08 (Appendix 2A) Analyze a mixed cost using a scattergraph plot and the least-squares regression method.

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19. (Appendix 2A) Below are cost and activity data for a particular cost over the last four periods. Your boss has asked you to analyze this cost so that management will have a better understanding of how this cost changes in response to changes in activity.

	Activity	Cost
Period 1	44	$277
Period 2	42	$265
Period 3	48	$284
Period 4	49	$284

Required:

Using the least-squares regression method, estimate the cost formula for this cost.

The solution using Microsoft Excel functions is:

Variable cost = Slope = $2.55

Fixed cost = Intercept = $160.85

Therefore, the cost formula is $160.85 per period plus $2.55 per unit of activity or:

Y = $160.85 + $2.55X

The solution using the formulas in the text is:

n = 4

sumX = 183

sumY = 1,110

sumXY = 50,866

sumX^2 = 8,405

b = [n(sumXY) - (sumX)(sumY)]/[n(sumX^2) - (sumX)^2]

= [4(50,866) - (183)(1,110)]/[4(8,405) - (183)^2]

= $2.55 (rounded to nearest whole cent)

a = [(sumY) - b(sumX)]/n

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= [(1,110) - 2.55(183)]/4

= $161 (rounded to nearest whole dollar)

Cost formula: Y = $161 + $2.55X.

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-08 (Appendix 2A) Analyze a mixed cost using a scattergraph plot and the least-squares regression method.

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20. (Appendix 2A) Escalona Printing Corp., a book printer, has provided the following data:

	Titles Printed	Press Setup Cost
February	20	$3,405
March	31	$4,277
April	18	$3,281
May	28	$4,040
June	34	$4,535
July	22	$3,561
August	33	$4,451
September	23	$3,637

Management believes that the press setup cost is a mixed cost that depends on the number of titles printed. (A specific book that is to be printed is called a "title". Typically, thousands of copies will be printed of each title. Specific steps must be taken to setup the presses for printing each title-for example, changing the printing plates. The costs of these steps are the press setup costs.)

Required:

Estimate the variable cost per title printed and the fixed cost per month using the least-squares regression method.

The solution using Microsoft Excel functions is:

Variable cost per title printed = Slope = $79.33

Fixed cost per month = Intercept = $1,826

The solution using the formulas in the text is:

n = 8

sumX = 209

sumY = $31,187

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sumXY = $835,931

sumX2 = 5,727

b = [n(sumXY) - (sumX)(sumY)]/[n(sumX^2) - (sumX)^2]

= [8($835,931) - (209)($31,187)]/[8(5,727) - (209)^2]

= $79.33

a = [(sumY) - b(sumX)]/n

= [($31,187) - $79.33(209)]/8

= $1,826

Any difference in the solutions is due to rounding errors when the formulas are used.

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-08 (Appendix 2A) Analyze a mixed cost using a scattergraph plot and the least-squares regression method.

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21. (Appendix 2A) The management of Sambrano Corporation would like to better understand the behavior of the company's warranty costs. Those costs are listed below for a number of recent months:

	Product Returns	Warranty Cost
January	17	$4,106
February	28	$4,560
March	21	$4,280
April	24	$4,399
May	27	$4,528
June	20	$4,239
July	18	$4,144
August	30	$4,642

Management believes that warranty cost is a mixed cost that depends on the number of product returns.

Required:

Estimate the variable cost per product return and the fixed cost per month using the least-squares regression method.

The solution using Microsoft Excel functions is:

Variable cost per product return = Slope = $41.30

Fixed cost per month = Intercept = $3,407

The solution using the formulas in the text is:

n = 8

sumX = 185

sumY = $34,898

sumXY = $813,826

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sumX2 = 4,443

b = [n(sumXY) - (sumX)(sumY)]/[n(sumX^2) - (sumX)^2]

= [8($813,826) - (185)($34,898)]/[8(4,443) - (185)^2]

= $41.30

a = [(sumY) - b(sumX)]/n

= [($34,898) - $41.30(185)]/8

= $3,407

Any difference in the solutions is due to rounding errors when the formulas are used.

AACSB: Analytical Thinking

AICPA: BB Critical Thinking

AICPA: FN Measurement

Blooms: Apply

Difficulty: 3 Hard

Learning Objective: 02-08 (Appendix 2A) Analyze a mixed cost using a scattergraph plot and the least-squares regression method.

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