

***Beginning and Intermediate Algebra and College
Algebra 1st edition Lial Test Bank***

SKU: 9780134987231-TEST-BANK

CHAPTER 2, FORM A
COLLEGE ALGEBRA

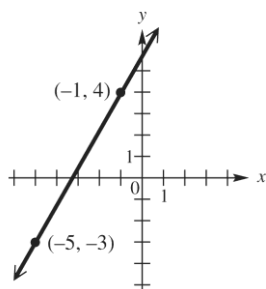
NAME _____
DATE _____

1. Match the set described in Column I with the correct interval notation from Column II. Choices in Column II may be used once, more than once, or not at all.

I	II
a. Domain of $f(x) = \sqrt{x-3}$	A. $(-\infty, \infty)$
b. Range of $f(x) = \sqrt{x} - 3$	B. $[3, \infty)$
c. Domain of $f(x) = x^2 - 16$	C. $[0, 2]$
d. Range of $y = 2x^2$	D. $[0, \infty)$
e. Domain of $f(x) = \sqrt[3]{x-2}$	E. $[-3, 3]$
f. Range of $f(x) = \sqrt[3]{x} + 2$	F. $(-\infty, -2]$
g. Domain of $f(x) = x+2 $	G. $[-3, \infty)$
h. Range of $f(x) = x + 3$	H. $[-7, \infty)$
i. Domain of $y = 2s^2$	
j. Range of $f(x) = x^2 - 7$	

1. a. _____
b. _____
c. _____
d. _____
e. _____
f. _____
g. _____
h. _____
i. _____
j. _____

The graph shows the line that passes through the points $(-5, -3)$ and $(-1, 4)$. Refer to it to answer Exercises 2–6.

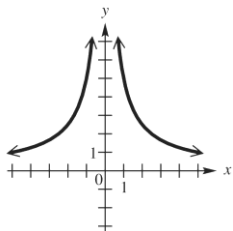


- | | |
|--|----------|
| 2. What is the slope of the line? | 2. _____ |
| 3. What is the distance between the two points shown? | 3. _____ |
| 4. What are the coordinates of the midpoint of the segment joining the two points? | 4. _____ |
| 5. Find the standard form of the equation of the line. | 5. _____ |
| 6. Write the linear function defined by $f(x) = ax + b$ that has this line as its graph. | 6. _____ |

CHAPTER 2, FORM A

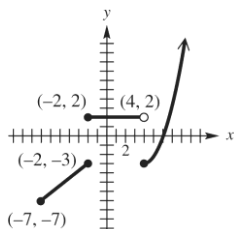
Tell whether each graph is that of a function. Give the domain and the range. If it is a function, give the intervals where it is increasing, decreasing, or constant.

7.



7. _____

8.



8. _____

9. Suppose point P has coordinates $\left(\frac{2}{5}, \frac{3}{7}\right)$.

- a. What is the equation of the vertical line through P ?
 b. What is the equation of the horizontal line through P ?

9. a. _____
 b. _____

10. Find the slope-intercept form of the equation of the line passing through $(2, 5)$ and

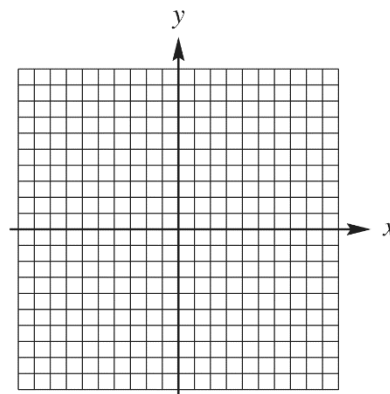
- a. parallel to the graph of $y = 4x - 7$;
 b. perpendicular to the graph of $y = 4x - 7$.

10. a. _____
 b. _____

Graph each relation.

11. $x = 2|y - 3| + 1$

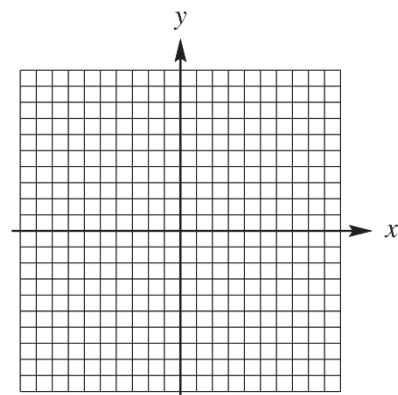
11.



CHAPTER 2, FORM A

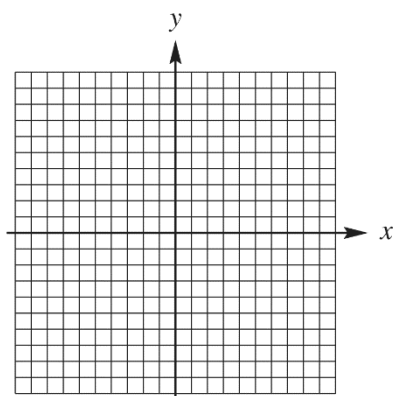
12. $f(x) = x + 2$

12.



13. $f(x) = \begin{cases} 2x-1 & \text{if } x < 0 \\ -3x-1 & \text{if } x \geq 0 \end{cases}$

13.



14. Explain how the graph of $y = -\frac{1}{2}\sqrt{x+3} + 5$ can be obtained from the graph of $y = \sqrt{x}$.

14. _____

15. Determine whether the graph of $2x^2 + 3y^2 = 1$ is symmetric with respect to

15. a. _____

b. _____

a. the x -axis,

c. _____

b. the y -axis,

c. the origin.

Given $f(x) = x^2 - 1$ and $g(x) = 2x + 1$, find each of the following. Simplify the expressions when possible.

16. $(fg)(x)$

16. _____

17. $(f+g)(x)$

17. _____

18. the domain of $\frac{g}{f}$

18. _____

CHAPTER 2, FORM A

19. $\frac{f(x+h) - f(x)}{h}$

20. $(f - g)(0)$

21. $\left(\frac{f}{g}\right)(2)$

22. $(f \circ g)(x)$

23. $(f \circ g)(-2)$

24. $(g \circ f)(x)$

25. $(g \circ f)(-2)$

19. _____

20. _____

21. _____

22. _____

23. _____

24. _____

25. _____

CHAPTER 2, FORM B
COLLEGE ALGEBRA

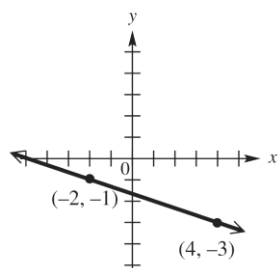
NAME _____
DATE _____

1. Match the set described in Column I with the correct interval notation from Column II. Choices in Column II may be used once, more than once, or not at all.

I	II
a. Domain of $f(x) = \sqrt{x-4}$	A. $(-\infty, \infty)$
b. Range of $f(x) = \sqrt{x} - 2$	B. $[-2, \infty)$
c. Domain of $f(x) = 3x^2$	C. $[0, 2]$
d. Range of $f(x) = x^2 + 5$	D. $[0, \infty)$
e. Domain of $f(x) = \sqrt[3]{x-8}$	E. $[-3, 3]$
f. Range of $f(x) = \sqrt[3]{x} - 1$	F. $(-\infty, -2]$
g. Domain of $f(x) = x-2 $	G. $[5, \infty)$
h. Range of $f(x) = x + 5$	H. $[4, \infty)$
i. Domain of $x = 2y^2$	
j. Range of $x = 2y^2$	

1. a. _____
b. _____
c. _____
d. _____
e. _____
f. _____
g. _____
h. _____
i. _____
j. _____

The graph shows the line that passes through the points $(-2, -1)$ and $(4, -3)$. Refer to it to answer Exercises 2–6.

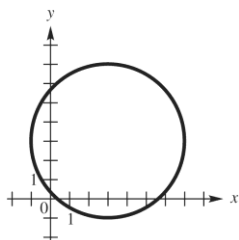


- | | |
|--|----------|
| 2. What is the slope of the line? | 2. _____ |
| 3. What is the distance between the two points shown? | 3. _____ |
| 4. What are the coordinates of the midpoint of the segment joining the two points? | 4. _____ |
| 5. Find the standard form of the equation of the line. | 5. _____ |
| 6. Write the linear function defined by $f(x) = ax + b$ that has this line as its graph. | 6. _____ |

CHAPTER 2, FORM B

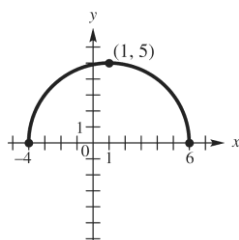
Tell whether each graph is that of a function. Give the domain and the range. If it is a function, give the intervals where it is increasing, decreasing, or constant.

7.



7. _____

8.

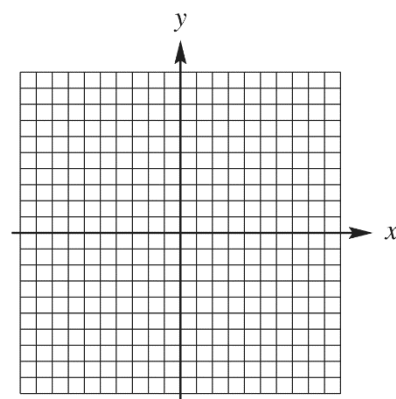


8. _____

Graph each relation.

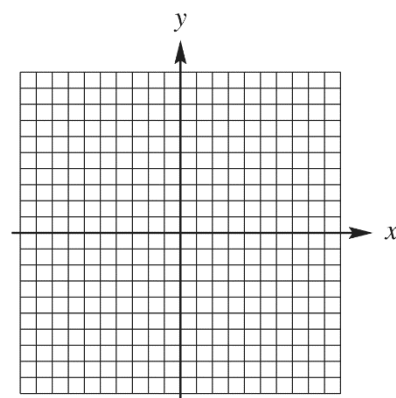
9. $f(x) = 2 - |3x|$

9.



10. $f(x) = \frac{1}{2}x$

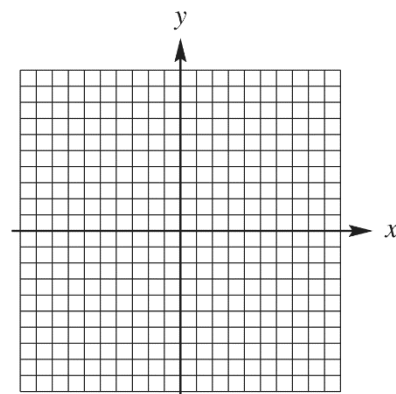
10.



CHAPTER 2, FORM B

11.
$$f(x) = \begin{cases} -2x & \text{if } x < -3 \\ 4 & \text{if } -3 \leq x \leq 2 \\ x - 4 & \text{if } x \geq 2 \end{cases}$$

11.



12. Suppose point P has coordinates $\left(\frac{5}{8}, -\frac{7}{9}\right)$.

- a. What is the equation of the vertical line through P ?
 b. What is the equation of the horizontal line through P ?

12. a. _____

b. _____

13. Find the slope-intercept form of the equation of the line passing through $(-6, 3)$ and

- a. parallel to the graph of $y = -3x - 12$;
 b. perpendicular to the graph of $y = -3x - 12$.

13. a. _____

b. _____

14. Explain how the graph of $y = -\frac{1}{3}\sqrt{x+4} + 2$ can be obtained from the graph of $y = \sqrt{x}$.

14. _____

15. Determine whether the graph of $y^2 = 3x$ is symmetric with respect to

15. a. _____

b. _____

c. _____

a. the x -axis,b. the y -axis,

c. the origin.

Given $f(x) = 2x^2 + 7x + 6$ and $g(x) = 3x - 2$, find each of the following. Simplify the expressions when possible.

16. $(fg)(x)$

16. _____

17. $(f - g)(x)$

17. _____

18. the domain of $\frac{g}{f}$

18. _____

CHAPTER 2, FORM B

19. $\frac{f(x+h) - f(x)}{h}$

19. _____

20. $(f + g)(1)$

20. _____

21. $\left(\frac{g}{f}\right)(0)$

21. _____

22. $(f \circ g)(x)$

22. _____

23. $(f \circ g)(1)$

23. _____

24. $(g \circ f)(x)$

24. _____

25. $(g \circ f)(1)$

25. _____

CHAPTER 2, FORM C
COLLEGE ALGEBRA

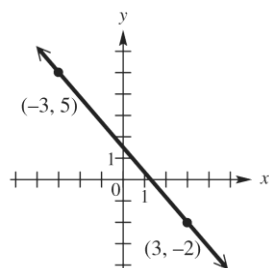
NAME _____
DATE _____

1. Match the set described in Column I with the correct interval notation from Column II. Choices in Column II may be used once, more than once, or not at all.

I	II
a. Domain of $f(x) = \sqrt{x+2}$	A. $(-\infty, \infty)$
b. Range of $f(x) = \sqrt{x} - 4$	B. $[-4, \infty)$
c. Domain of $f(x) = x^2 - 1$	C. $[0, 2]$
d. Range of $f(x) = x^2 - 16$	D. $[0, \infty)$
e. Domain of $f(x) = \sqrt[3]{x-2}$	E. $[-3, 3]$
f. Range of $f(x) = \sqrt[3]{x} + 2$	F. $(-\infty, -3]$
g. Domain of $f(x) = x+3 $	G. $[-1, \infty)$
h. Range of $f(x) = x - 3$	H. $[-2, \infty)$
i. Domain of $y = 2x^2$	
j. Range of $y = x^2 - 3$	

1. a. _____
b. _____
c. _____
d. _____
e. _____
f. _____
g. _____
h. _____
i. _____
j. _____

The graph shows the line that passes through the points $(-3, -5)$ and $(3, -2)$. Refer to it to answer Exercises 2–6.

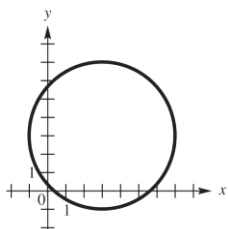


- | | |
|--|----------|
| 2. What is the slope of the line? | 2. _____ |
| 3. What is the distance between the two points shown? | 3. _____ |
| 4. What are the coordinates of the midpoint of the segment joining the two points? | 4. _____ |
| 5. Find the standard form of the equation of the line. | 5. _____ |
| 6. Write the linear function defined by $f(x) = ax + b$ that has this line as its graph. | 6. _____ |

CHAPTER 2, FORM C

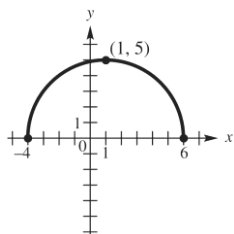
Tell whether each graph is that of a function. Give the domain and the range. If it is a function, give the intervals where it is increasing, decreasing, or constant.

7.



7. _____

8.



8. _____

9. Suppose point P has coordinates $(2\sqrt{2}, -\sqrt{5})$.

- a. What is the equation of the vertical line through P ?
 b. What is the equation of the horizontal line through P ?

9. a. _____
 b. _____

10. Find the slope-intercept form of the equation of the line passing through $(4, -2)$ and

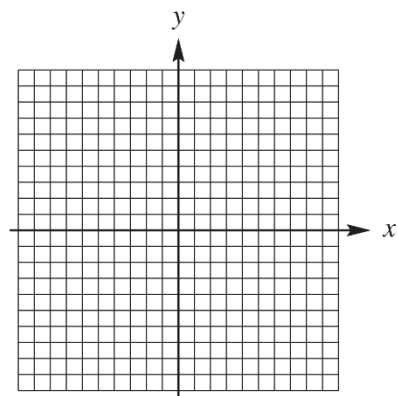
- a. parallel to the graph of $x = \frac{5}{4}y - 2$;
 b. perpendicular to the graph of $x = \frac{5}{4}y - 2$;

10. a. _____
 b. _____

CHAPTER 2, FORM C*Graph each relation.*

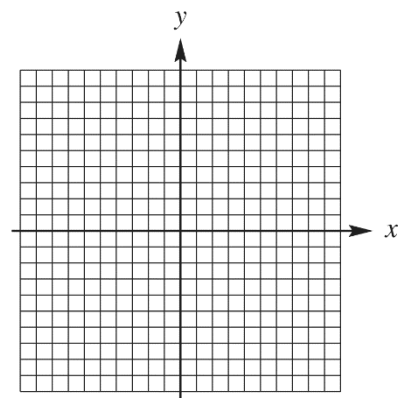
11. $f(x) = \frac{1}{2}|x+1| - 2$

11.

**CHAPTER 2, FORM A**

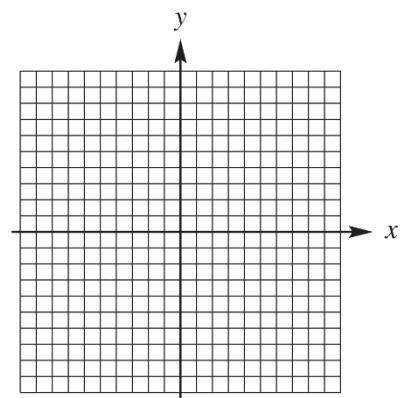
12. $f(x) = 2x - 2$

12.



13. $f(x) = \begin{cases} x+1 & \text{if } x \leq -2 \\ -1 & \text{if } x > -2 \end{cases}$

13.



CHAPTER 2, FORM C

14. Explain how the graph of $y = 3|x + 4| + 2$ can be obtained from the graph of $y = |x|$.

14. _____

15. Determine whether the graph of $y = 3x^2 + 7$ is symmetric with respect to

15. a. _____

a. the x -axis,

b. _____

b. the y -axis,

c. _____

c. the origin.

Given $f(x) = 3x^2 - 2$ and $g(x) = 4x + 4$, find each of the following. Simplify the expressions when possible.

16. $(fg)(x)$

16. _____

17. $(g - f)(x)$

17. _____

18. $f(-2)$

18. _____

19. $\frac{f(x+h) - f(x)}{h}$

19. _____

20. $(f + g)(0)$

20. _____

21. $\left(\frac{f}{g}\right)(-2)$

21. _____

22. $(f - g)(x)$

22. _____

23. $(f \circ g)(x)$

23. _____

24. $(g \circ f)(x)$

24. _____

25. $(g \circ f)(0)$

25. _____

CHAPTER 2, FORM D
COLLEGE ALGEBRA

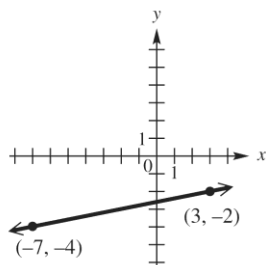
NAME _____
DATE _____

1. Match the set described in Column I with the correct interval notation from Column II. Choices in Column II may be used once, more than once, or not at all.

- | I | II |
|--------------------------------------|------------------------|
| a. Domain of $f(x) = \sqrt{x+1}$ | A. $(-\infty, -1]$ |
| b. Range of $f(x) = \sqrt{x} + 1$ | B. $(-\infty, \infty)$ |
| c. Domain of $f(x) = x^2 - 25$ | C. $[0, 2]$ |
| d. Range of $f(x) = x^2 - 1$ | D. $[0, \infty)$ |
| e. Domain of $f(x) = \sqrt[3]{x-2}$ | E. $[-3, 3]$ |
| f. Range of $f(x) = \sqrt[3]{x} + 2$ | F. $[-3, \infty)$ |
| g. Domain of $f(x) = x+4 $ | G. $[-1, \infty)$ |
| h. Range of $f(x) = x - 4$ | H. $[-4, \infty)$ |
| i. Domain of $y = 2x^2$ | |
| j. Range of $y = x^2 - 4$ | |

1. a. _____
b. _____
c. _____
d. _____
e. _____
f. _____
g. _____
h. _____
i. _____
j. _____

The graph shows the line that passes through the points $(-7, -4)$ and $(3, -2)$. Refer to it to answer Exercises 2–6.



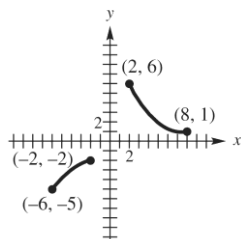
2. What is the slope of the line?
3. What is the distance between the two points shown?
4. What are the coordinates of the midpoint of the *segment* joining the two points?
5. Find the standard form of the equation of the line.
6. Write the linear function defined by $f(x) = ax + b$ that has this line as its graph.

2. _____
3. _____
4. _____
5. _____
6. _____

CHAPTER 2, FORM D

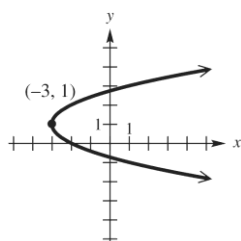
Tell whether each graph is that of a function. Give the domain and the range. If it is a function, give the intervals where it is increasing, decreasing, or constant.

7.



7. _____

8.

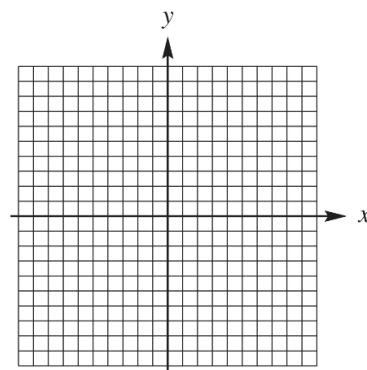


8. _____

Graph each relation.

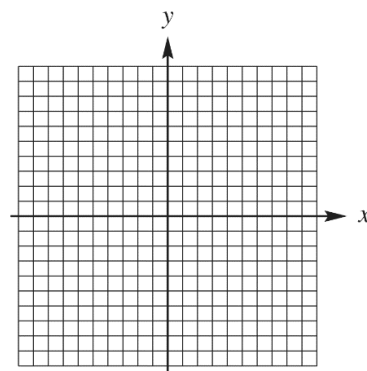
9. $f(x) = 3 + |x + 1|$

9.



10. $f(x) = \begin{cases} -x & \text{if } x < 0 \\ 2x & \text{if } x \geq 0 \end{cases}$

10.



CHAPTER 2, FORM D

11. Suppose point P has coordinates $(-3, 2.1)$.

- a. What is the equation of the vertical line through P ?
 b. What is the equation of the horizontal line through P ?

11. a. _____
 b. _____

12. Find the slope-intercept form of the equation of the line passing through $(1, -5)$ and

- a. parallel to the graph of $x = -\frac{3}{4}y + 5$;
 b. perpendicular to the graph of $x = -\frac{3}{4}y + 5$;

12. a. _____
 b. _____

13. Find the slope of the line through points $(11, -5)$ and $(-8, 6)$.
 from the graph of $y = \sqrt{x}$.

13. _____

14. Explain how the graph of $y = 3\sqrt{x-4} - 2$ can be obtained
 from the graph of $y = \sqrt{x}$.

14. _____

15. Determine whether the graph of $xy = -4$ is symmetric
 with respect to

- a. the x -axis,
 b. the y -axis,
 c. the origin.

15. a. _____
 b. _____
 c. _____

Given $f(x) = 2x^3 - 3x - 1$ and $g(x) = 2x + 1$, find each of the following. Simplify the expressions when possible.

16. $(f + g)(x)$

16. _____

17. $\left(\frac{f}{g}\right)(x)$

17. _____

18. $f(0)$

18. _____

19. $\frac{f(x+h) - f(x)}{h}$

19. _____

20. $(g - f)(0)$

20. _____

21. $(fg)(-1)$

21. _____

22. $(f \circ g)(x)$

22. _____

CHAPTER 2, FORM D

23. $(f \circ g)(2)$

24. $(g \circ f)(x)$

25. $(g \circ f)(2)$

23. _____

24. _____

25. _____

**CHAPTER 2, FORM E
COLLEGE ALGEBRA**

NAME _____
DATE _____

Choose the best answer.

1a. Which of the following is the domain of $f(x) = \sqrt{3-x}$?

- a. $[0, 3]$ b. $(-\infty, 3]$
c. $[3, \infty)$ d. $(-\infty, \infty)$

1a. _____

1b. Which of the following is the range of $f(x) = x^2 - 49$?

- a. $[-49, \infty)$ b. $[-7, \infty)$
c. $[-7, 7]$ d. $[0, \infty)$

1b. _____

1c. Which of the following is the domain of $f(x) = \sqrt[3]{x+7}$?

- a. $(-\infty, \infty)$ b. $(-\infty, 6]$
c. $[0, \infty)$ d. $[6, \infty)$

1c. _____

1d. Which of the following is the range of $f(x) = |x| + 1$?

- a. $[-1, 1]$ b. $[0, 1]$
c. $[0, \infty)$ d. $[1, \infty)$

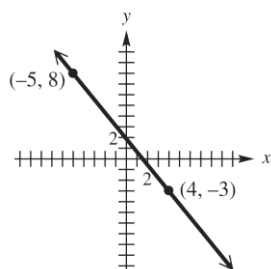
1d. _____

1e. Which of the following is the domain of $x = y^2$?

- a. $(-\infty, \infty)$ b. $[0, \infty)$
c. $(0, \infty)$ d. $(-\infty, 0]$

1e. _____

The graph shows the line that passes through $(-5, 8)$ and $(4, -3)$. Refer to it to answer Exercises 2-6.



2. What is the slope of the line?

- a. $-\frac{13}{7}$ b. $\frac{11}{9}$
c. $-\frac{11}{9}$ d. 0

2. _____

3. What is the distance between the two points shown?

- a. $\sqrt{26}$ b. $2\sqrt{5}$
c. $\sqrt{202}$ d. $\sqrt{122}$

3. _____

CHAPTER 2, FORM E

4. What are the coordinates of the midpoint of the segment joining the two points?

a. $\left(-\frac{1}{2}, \frac{5}{2}\right)$ b. $\left(-\frac{9}{2}, \frac{11}{2}\right)$
 c. $\left(\frac{3}{2}, \frac{1}{2}\right)$ d. $(-1, 5)$

4. _____

5. Find the standard form of the equation of the line.

a. $11x + 9y = 127$ b. $11x - 9y = 17$
 c. $11x + 9y = 17$ d. $11x - 9y = 127$

5. _____

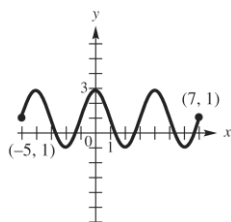
6. Find the standard form of the equation of the line.

a. $f(x) = \frac{11}{9}x - \frac{17}{9}$ b. $f(x) = -\frac{11}{9}x + \frac{17}{9}$
 c. $f(x) = \frac{11}{9}x + \frac{127}{9}$ d. $f(x) = \frac{11}{9}x - \frac{127}{9}$

6. _____

Tell whether each graph is that of a function. Give the domain and range.

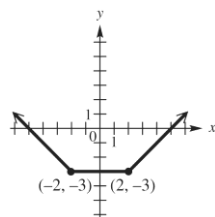
7.



7. _____

- a. Function; domain: $[-5, 7]$; range: $[-1, 3]$
 b. Function; domain: $(-\infty, \infty)$; range: $[-1, 3]$
 c. Function; domain: $[-1, 3]$; range: $[-5, 7]$
 d. Not a function; domain: $[-5, 7]$; range: $[-1, 3]$

8.



8. _____

- a. Not a function; domain: $(-\infty, \infty)$; range: $[-2, \infty)$
 b. Not a function; domain: $[-5, 5]$; range: $[-3, \infty)$
 c. Function; domain: $(-\infty, \infty)$; range: $[-2, \infty)$
 d. Function; domain: $(-\infty, \infty)$; range: $[-3, \infty)$

CHAPTER 2, FORM E

9. Suppose point
- P
- has coordinates
- $(-6, 1)$
- .

What is the equation of the horizontal line through P ?

- a. $x = -6$ b. $y = 1$
 c. $x = 1$ d. $y = 6$

9. _____

10. Find the slope-intercept form of the equation of the line passing.

through $(-2, 5)$ perpendicular to the graph of $y = -\frac{1}{8}x + \frac{19}{4}$.

- a. $y = 8x + 21$ b. $y = \frac{1}{3}x - 3$
 c. $y = -8x - 13$ d. $y = -\frac{1}{3}x + 3$

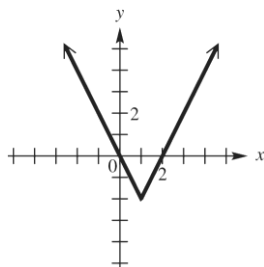
10. _____

Graph each function.

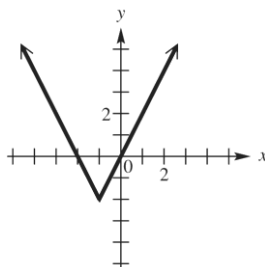
- 11.
- $f(x) = 2|x - 1| - 2$

11. _____

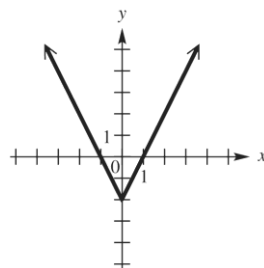
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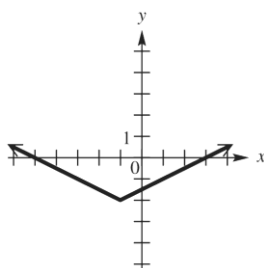
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c.



d.

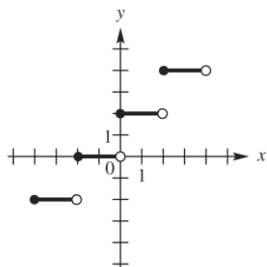


CHAPTER 2, FORM E

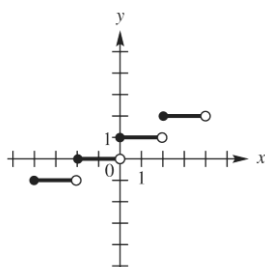
12. $f(x) = \begin{cases} \frac{1}{2}x & \text{if } x < 2 \\ 1 & \text{if } x \geq 2 \end{cases}$

12. _____

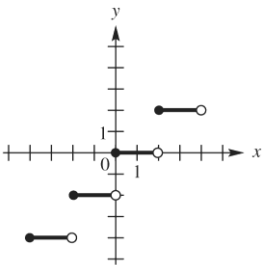
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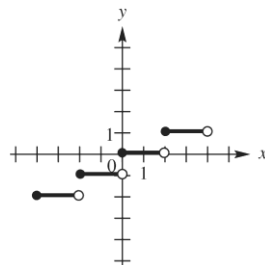
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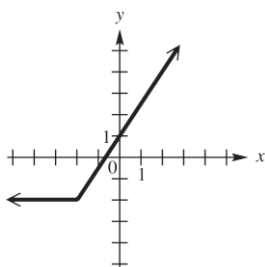
d.



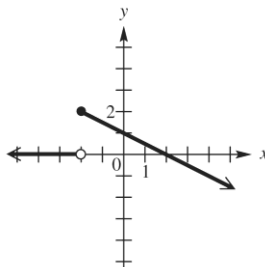
13. $f(x) = \begin{cases} 2 & \text{if } x < -2 \\ -\frac{1}{2}x + 1 & \text{if } x \geq -2 \end{cases}$

13. _____

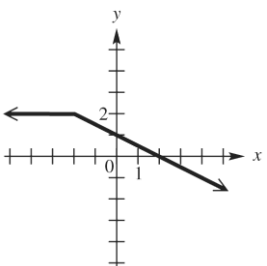
a.



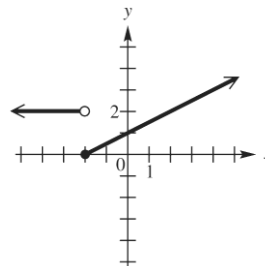
b.



c.



d.



CHAPTER 2, FORM E

14. Explain how the graph of $y = \sqrt{x+2} - 5$ can be obtained from the graph of $y = \sqrt{x}$. 14. _____
- Translate 2 unit to the right and 5 units up.
 - Translate 2 unit to the right and 5 units down.
 - Translate 2 unit to the left and 5 units up.
 - Translate 2 unit to the left and 5 units down.

15. Determine the symmetries of the graph of the relation $x^2 - 2xy + y^2 = 5$. 15. _____
- x -axis only
 - y -axis only
 - origin only
 - x -axis, y -axis, and origin

Given $f(x) = 5x - 4$ and $g(x) = x^2 + 3$, find each of the following.
Simplify the expressions when possible.

16. $(fg)(x)$ 16. _____
- $x^3 + 4x^2 - 12$
 - $5x^3 - 4x^2 + 15x - 12$
 - $5x^3 + 4x^2 + 3x - 12$
 - $-5x^3 + 4x^2 - 5x - 12$

17. $(g - f)(x)$ 17. _____
- $x^2 - 5x + 7$
 - $x^2 + 5x - 7$
 - $-x^2 - 5x + 1$
 - $x^2 + 5x + 1$

18. The domain of $\frac{g}{f}$ 18. _____
- $\left(-\infty, \frac{4}{5}\right) \cup \left(\frac{4}{5}, \infty\right)$
 - $\left(-\infty, \frac{5}{4}\right) \cup \left(\frac{5}{4}, \infty\right)$
 - $\left(-\infty, \frac{1}{3}\right) \cup \left(\frac{1}{3}, \infty\right)$
 - $(-\infty, \infty)$

19. $\frac{f(x+h) - f(x)}{h}$ 19. _____
- h
 - 5
 - $5x + 2h$
 - $5x + 2h - 4$

20. $(f + g)(-1)$ 20. _____
- 1
 - 5
 - 2
 - 5

CHAPTER 2, FORM E

21. $\left(\frac{f}{g}\right)(0)$ 21. _____
- a. $-\frac{3}{4}$ b. $\frac{1}{4}$
- c. $-\frac{4}{3}$ d. $\frac{15}{2}$
-
22. $(g \circ f)(x)$ 22. _____
- a. $25x^2 + 40x - 19$ b. $25x^2 - 40x + 19$
- c. $25x^2 - 40x - 19$ d. $25x^2 + 40x + 19$
-
23. $(g \circ f)(1)$ 22. _____
- a. -6 b. 4
- c. 0 d. 1
-
24. $(f \circ g)(x)$ 24. _____
- a. $5x^2 - 11$ b. $5x^2 + 11$
- c. $5x^2 + 19$ d. $5x^2 - 12$
-
25. $(f \circ g)(0)$ 25. _____
- a. -1 b. 0
- c. 11 d. 15

**CHAPTER 2, FORM F
COLLEGE ALGEBRA**

NAME _____
DATE _____

Choose the best answer.

1a. Which of the following is the domain of $f(x) = \sqrt{x-1}$?

- a. $[0, 1]$ b. $(-\infty, 1]$
c. $[1, \infty)$ d. $(-\infty, \infty)$

1a. _____

1b. Which of the following is the range of $f(x) = x^2 - 4$?

- a. $[-2, \infty)$ b. $[-4, \infty)$
c. $[-4, 4]$ d. $[0, \infty)$

1b. _____

1c. Which of the following is the domain of $f(x) = \sqrt[3]{x-7}$?

- a. $(-\infty, \infty)$ b. $(-\infty, 3]$
c. $[0, \infty)$ d. $[3, \infty)$

1c. _____

1d. Which of the following is the range of $f(x) = |x| + 2$?

- a. $[-2, 2]$ b. $[0, 2]$
c. $[2, \infty)$ d. $[0, \infty)$

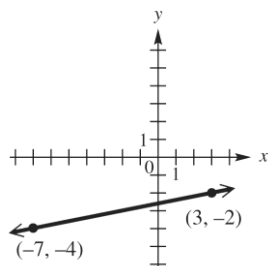
1d. _____

1e. Which of the following is the domain of $x = y^2$?

- a. $(-\infty, \infty)$ b. $[0, \infty)$
c. $(0, \infty)$ d. $(-\infty, 0]$

1e. _____

The graph shows the line that passes through $(-7, -4)$ and $(3, -2)$. Refer to it to answer Exercises 2-6.



2. What is the slope of the line?

- a. 0 b. $-\frac{1}{5}$
c. $\frac{1}{5}$ d. 5

2. _____

3. What is the distance between the two points shown?

- a. $\sqrt{122}$ b. $2\sqrt{26}$
c. $2\sqrt{13}$ d. $2\sqrt{34}$

3. _____

CHAPTER 2, FORM F

4. What are the coordinates of the midpoint of the *segment* joining the two points?

- a. $\left(\frac{1}{2}, -\frac{11}{2}\right)$ b. $(-2, -1)$
c. $(-5, -1)$ d. $(-2, -3)$

4. _____

5. Find the standard form of the equation of the line.

- a. $5x - y = 17$ b. $5x + y = -17$
c. $x - 5y = 13$ d. $x + 5y = -13$

5. _____

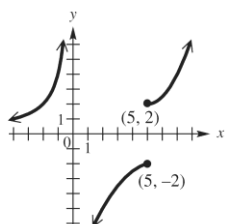
6. Find the standard form of the equation of the line.

- a. $f(x) = \frac{1}{5}x - \frac{13}{5}$ b. $f(x) = -5x + 17$
c. $f(x) = 5x - 17$ d. $f(x) = \frac{1}{5}x + \frac{13}{5}$

6. _____

Tell whether each graph is that of a function. Give the domain and range.

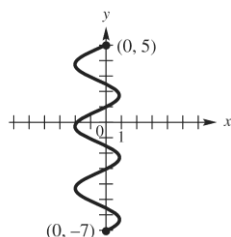
7.



7. _____

- a. not a function; domain: $(-\infty, 0) \cup (0, \infty)$; range: $(-\infty, -2] \cup (0, \infty)$
b. not a function; domain: $(-\infty, \infty)$; range: $(-\infty, \infty)$
c. not a function; domain: $(-\infty, 0) \cup (0, \infty)$; range: $(-\infty, \infty)$
d. not a function; domain: $(-\infty, 0) \cup (0, \infty)$; range: $(-\infty, -2] \cup (2, \infty)$

8.



8. _____

- a. not a function; domain: $[-2, 1]$; range: $(-\infty, \infty)$
b. not a function; domain: $[-7, 5]$; range: $[-2, 1]$
c. not a function; domain: $[-7, 5]$; range: $(-\infty, \infty)$
d. not a function; domain: $[-2, 1]$; range: $[-7, 5]$

CHAPTER 2, FORM F

9. Suppose point P has coordinates $(-3, 6)$.

What is the equation of the horizontal line through P ?

- a. $x = -3$ b. $y = -3$
c. $x = 6$ d. $y = 6$

9. _____

10. Find the slope-intercept form of the equation of the line passing.

through $(1, 2)$ perpendicular to the graph of $y = -\frac{1}{8}x + \frac{1}{3}$.

- a. $y = 8x - 3$ b. $y = \frac{1}{8}x - \frac{1}{3}$
c. $y = -8x + 3$ d. $y = -\frac{1}{8}x + \frac{17}{8}$

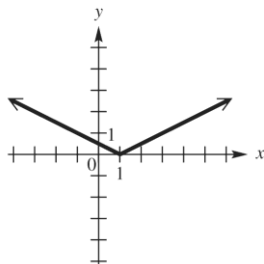
10. _____

Graph each relation.

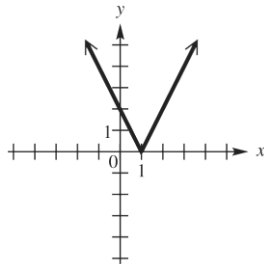
11. $f(x) = \frac{1}{2}|x+1|$

11. _____

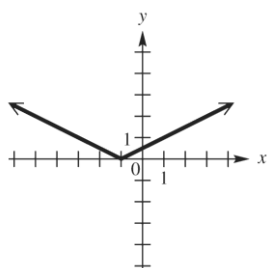
a.



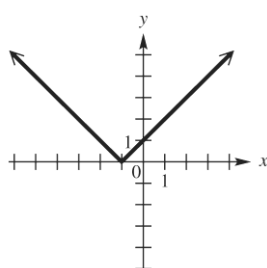
b.



c.



d.

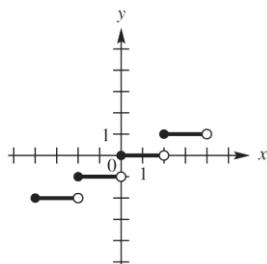


CHAPTER 2, FORM F

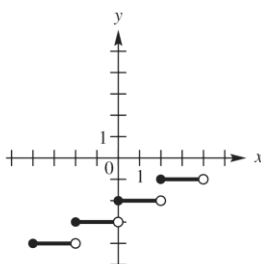
12. $f(x) = \begin{cases} \frac{1}{2}x - 2 & \text{if } x < 2 \\ 1 & \text{if } x \geq 2 \end{cases}$

12. _____

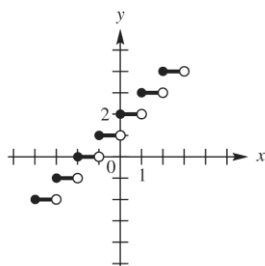
a.



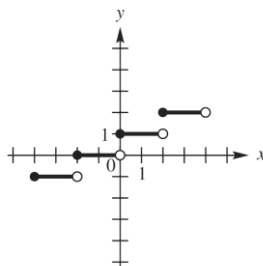
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c.



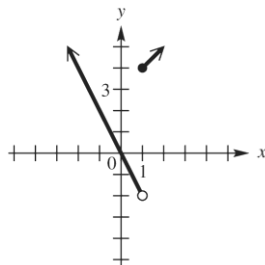
d.



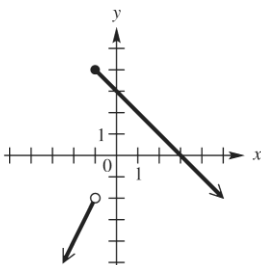
13. $f(x) = \begin{cases} -2x & \text{if } x < -1 \\ x+3 & \text{if } x \geq -1 \end{cases}$

13. _____

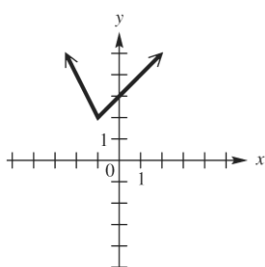
a.



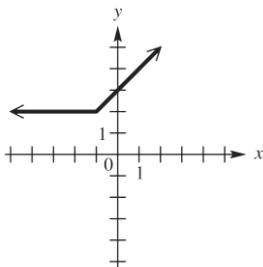
b.



c.



d.



14. Explain how the graph of $y = \sqrt{x+3} + 1$ can be obtained from the graph of $y = \sqrt{x}$.

14. _____

- Translate 3 units to the right and 1 units up.
- Translate 3 units to the right and 1 units down.
- Translate 3 units to the left and 1 units up.
- Translate 3 units to the left and 1 units down.

CHAPTER 2, FORM F

15. Determine the symmetries of the graph of the relation $4x^2 + 9y^2 = 36$.

- a. x -axis only b. y -axis only
c. Origin only d. x -axis, y -axis, and origin

15. _____

Given $f(x) = 6x^2 + 5x - 6$ and $g(x) = 2x - 8$, find each of the following.
Simplify the expressions when possible.

16. $f(-3)$

- a. -9 b. 21
c. 33 d. 51

16. _____

17. $\frac{f(x+h) - f(x)}{h}$

- a. $12x + 6h + 5$ b. $12x - 6h - 5$
c. $-12x + 6h + 5$ d. $-12x + 6h - 5$

17. _____

18. $(f \circ g)\left(\frac{3}{2}\right)$

- a. -131 b. 119
c. -181 d. 169

18. _____

19. $(f + g)(x)$

- a. $6x^2 + 7x - 14$ b. $6x^2 - 7x - 14$
c. $6x^2 + 7x - 2$ d. $6x^2 - 3x - 2$

19. _____

20. $(f + g)(0)$

- a. -15 b. -14
c. -27 d. 1

20. _____