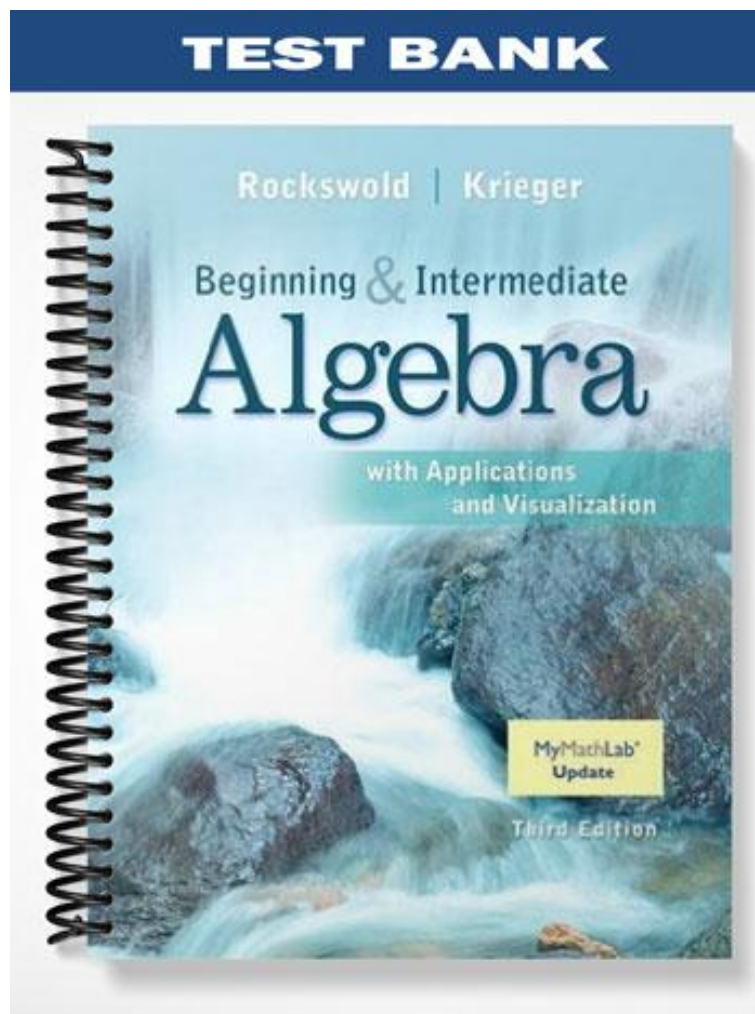


TEST BANK



Rockswold | Krieger

Beginning & Intermediate
Algebra

with Applications
and Visualization

MyMathLab[®]
Update

Third Edition

1. Evaluate $f(-2)$ if $f(x) = 4 - 3x^2$.

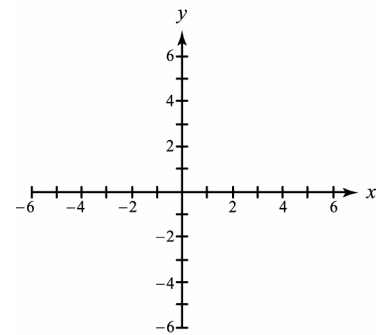
1. _____

2. Write a symbolic representation (formula) for a function S that calculates the number of seconds in x minutes. Evaluate $S(4)$ and interpret your result.

2. _____

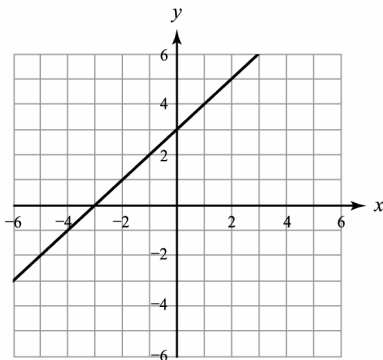
3. Sketch a graph of $f(x) = x^2 - 2$.

3.



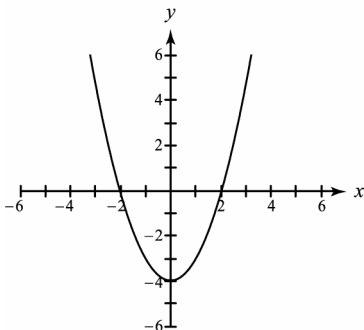
4. Use the graph of f to evaluate $f(-1)$.

4. _____



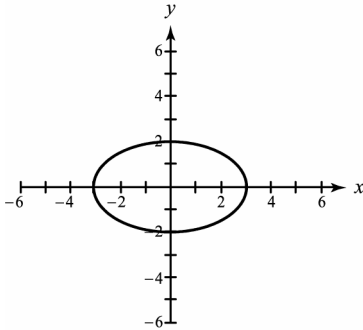
5. Determine the domain and range of f .

5. _____



6. A function f is represented verbally by “Square the input x and then add 3.” Give a symbolic representation of f . 6. _____

7. Determine whether the graph represents a function. 7. _____

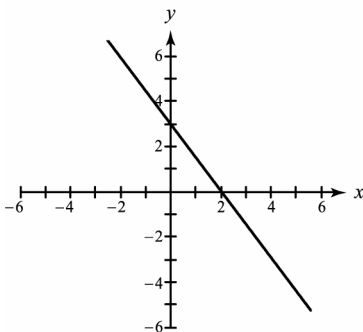


8. Find the domain of $f(x) = \frac{3}{4}x + 7$. 8. _____

9. Find the slope and y-intercept of the graph of $y = 3x - \frac{5}{2}$. 9. _____

10. Find the slope of the line passing through $(\frac{1}{2}, -2)$ and $(0, -3)$. 10. _____

11. Determine the slope of the line shown in the graph. 11. _____



12. Write the slope-intercept form of a line with x -intercept -2 and y -intercept $\frac{3}{2}$. 12. _____

13. Write the slope-intercept form of the line passing through $(1,3)$ and $(\frac{1}{2},1)$. 13. _____

14. Let f be a linear function. Find the slope of the graph of f . 14. _____

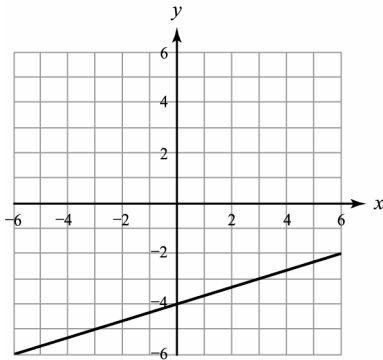
x	-4	-2	-1	0	1
$f(x)$	-6	0	3	6	9

15. Let f be a linear function. Find the x - and y -intercepts of the graph of f . 15. _____

x	-2	0	1	2	3
$f(x)$	8	4	2	0	-2

16. Give the slope-intercept form of a line parallel to $y = 5 - 4x$, passing through $(\frac{1}{2},1)$. 16. _____

17. Find the slope-intercept form for the line shown in the graph. 17. _____



18. Use the graph in #17 to find the equation of a line that passes through the origin and is perpendicular to the given line. 18. _____

19. Find an equation of the vertical line passing through the point $\left(\frac{1}{2}, -\frac{3}{4}\right)$. 19. _____

20. Find an equation of the horizontal line passing through the point $\left(-\frac{2}{3}, 1\right)$. 20. _____

1. Evaluate $f(-2)$ if $f(x) = -3x + 1$.

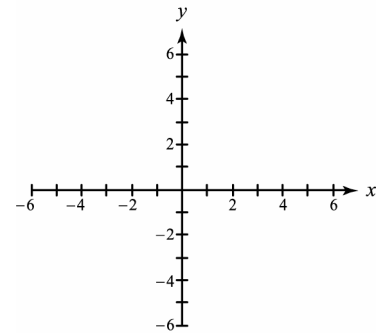
1. _____

2. Write a symbolic representation (formula) for a function C that calculates the cost of x gallons of gasoline at \$2.50 per gallon. Evaluate $C(10)$ and interpret your result.

2. _____

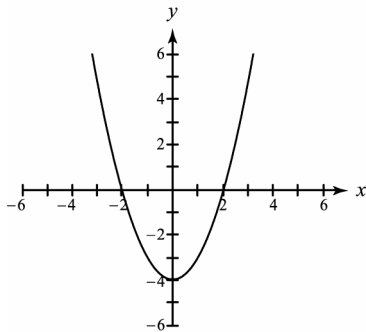
3. Sketch a graph of $f(x) = x + 3$.

3.



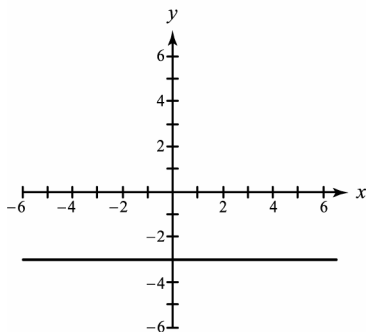
4. Use the graph of f to evaluate $f(2)$.

4. _____



5. Determine the domain and range of f .

5. _____

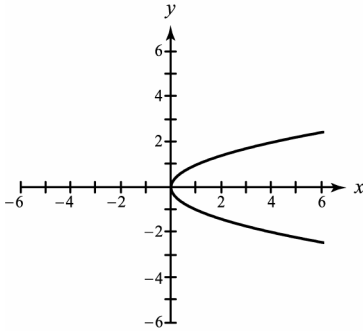


6. A function f is represented verbally by “Cube the input x and then subtract 4.” Give a symbolic representation of f .

6. _____

7. Determine whether the graph represents a function.

7. _____



8. Find the domain of $f(x) = \sqrt{x-5}$.

8. _____

9. Find the slope and y-intercept of the graph of $y = 2x - 3$.

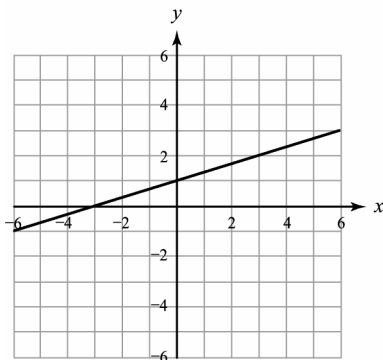
9. _____

10. Find the slope of the line passing through $(1, 3)$ and $(\frac{1}{2}, 1)$.

10. _____

11. Determine the slope of the line shown in the graph.

11. _____



12. Write the slope-intercept form of a line with x -intercept -1 and y -intercept $\frac{5}{3}$.

12. _____

13. Write the slope-intercept form of the line passing through the points $(\frac{3}{2}, 2)$ and $(1, \frac{1}{2})$. 13. _____

14. Let f be a linear function. Find the slope of the graph of f . 14. _____

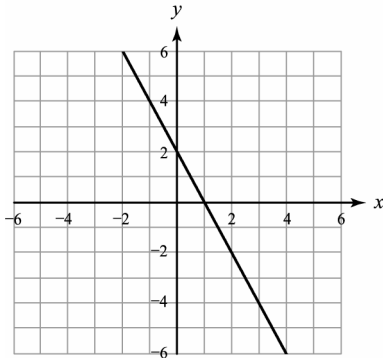
x	-2	0	2	3	4
$f(x)$	6	4	2	1	0

15. Let f be a linear function. Find the x - and y -intercepts of the graph of f . 15. _____

x	-2	-1	0	1	2
$f(x)$	9	6	3	0	-3

16. Give the slope-intercept form of a line perpendicular to $y = -\frac{3}{5}x - 2$, passing through $(6, -2)$. 16. _____

17. Find the slope-intercept form for the line shown in the graph. 17. _____



18. Use the graph in #17 to find the equation of a line that passes through the origin and is perpendicular to the given line. 18. _____

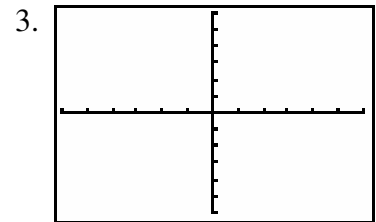
19. Find an equation of the vertical line passing through the point $(-\frac{2}{3}, 1)$. 19. _____

20. Find an equation of the horizontal line passing through the point $(\frac{3}{2}, -\frac{1}{2})$. 20. _____

1. For the years 1890 to 1960, the median age for a man's first marriage can be modeled by $f(x) = -0.0492x + 119.1$, where x is the year. Find the median age in 1930. Round answer to the nearest year. 1. _____

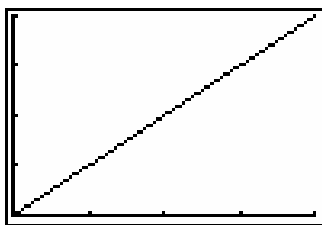
2. The median price of a single-family home during the years 1990 to 2000 can be approximated by $P(x) = 5421x + 89,000$, where $x = 0$ corresponds to the year 1990 and $x = 10$ corresponds to the year 2000. Find the median price of a single-family home in 1998. 2. _____

3. Use your graphing calculator to graph $f(x) = -3x + 5$.



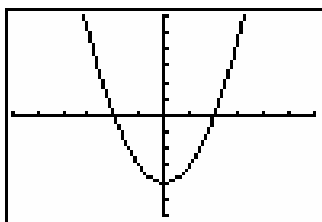
$[-6, 6, 1]$ by $[-6, 6, 1]$

4. Susan begins driving along a country road at a rate of 40 mph. The graph illustrates the distance from her place of origin after t hours. How far has Susan traveled after 3 hours? 4. _____



$[0, 4, 1]$ by $[0, 160, 40]$

5. Determine the domain and range of f . 5. _____

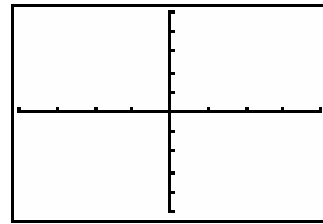


$[-6, 6, 1]$ by $[-6, 6, 1]$

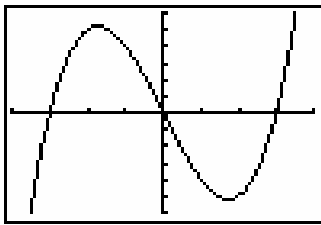
6. A function f is represented verbally by “Square the input x and then subtract 4.” Give symbolic, numerical and graphical representations of f . Let $x = -3, -2, -1, \dots, 3$ in the numerical representation (table) and let $-4 \leq x \leq 4$ for the graph.

6. _____

x	y_1	


 $[-4, 4, 1]$ by $[-5, 5, 1]$

7. Determine whether the graph represents a function.


 $[-4, 4, 1]$ by $[-6, 6, 1]$

7. _____

8. Find the domain of $f(x) = |x - 2.5|$.

8. _____

9. The monthly cost of operating a car can be modeled by the linear function $C(x) = 0.39x + 395$, where x represents the number of miles driven.

(a) Find the slope of the graph of the function.

What does the slope represent?

(b) Find the y-intercept of the graph of the function.

What does the y-intercept represent?

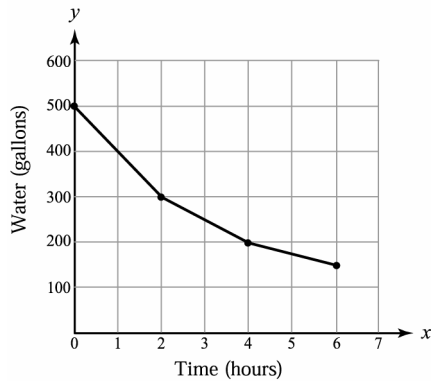
9. (a) _____

(b) _____

10. In 1994, tuition and fees at a public four-year college were \$2125. In 1997, tuition and fees increased to \$2689. What was the average yearly increase in fees from 1994 to 1997?

10. _____

11. The graph represents the amount of water (in gallons) remaining in a tank after t hours. At what rate was water being drained from the tank when $2 \leq t \leq 4$?



11. _____

12. Write the slope-intercept form of a line with x -intercept 1.29 and y -intercept -2.58 .

12. _____

13. On Labor Day 2000, there were 24.8 travelers (in millions). On Labor Day 2004, there were 29.2 travelers (in millions). Let x represent the number of years since 2000. Write the slope-intercept equation of the line that passes through $(0, 24.8)$ and $(4, 29.2)$.

13. _____

14. The following table shows equivalent temperatures in degrees Celsius and degrees Fahrenheit. This data can be modeled by a linear function. Use your graphing calculator to find the slope of the graph of that function.

14. _____

C	-40°	0°	15°	35°	100°
F	-40°	32°	59°	95°	212°

15. (a) Find the y -intercept of the graph of the linear function modeled in #14.
 (b) What does the y -intercept represent?

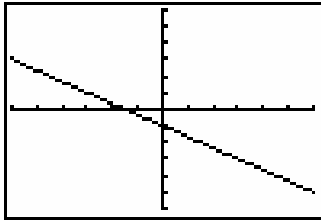
15. (a) _____

(b) _____

16. Give the slope-intercept form of a line parallel to $y = 1.28x - 7.18$, passing through $(2, 3.17)$.

16. _____

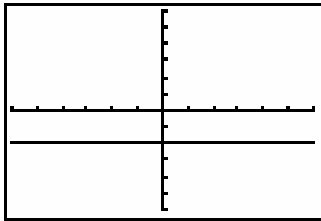
17. Find the slope-intercept form for the line shown in the graph. 17. _____



$[-6, 6, 1]$ by $[-6, 6, 1]$

18. Use the graph in #17 to find the equation of a line that passes through the origin and is parallel to the given line. 18. _____

19. Find an equation of the horizontal line in the graph. 19. _____



$[-6, 6, 1]$ by $[-6, 6, 1]$

20. From 1980 to 1997, the number of U.S. marriages (in millions) could be modeled by $f(x) = 2.4x$, where x represents the years since 1980. Estimate the number of marriages in 1986. 20. _____

1. Evaluate $f(-3)$ if $f(x) = -x^2 + 2$.

1. _____

(a) 11

(b) -7

(c) -11

(d) -1

2. Evaluate $f(2)$ if $f(x) = -5x + 6$.

2. _____

(a) -4

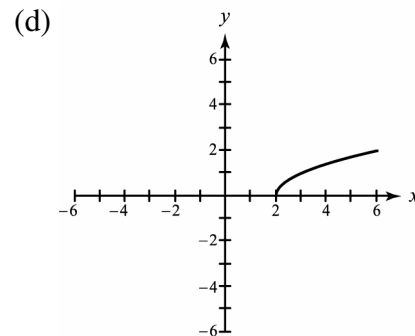
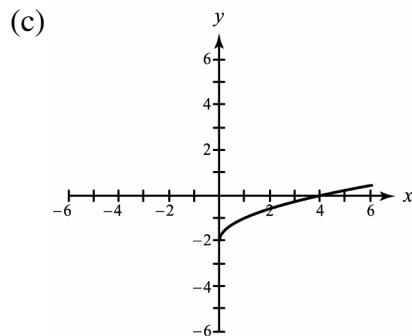
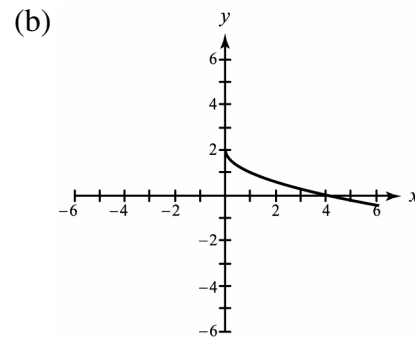
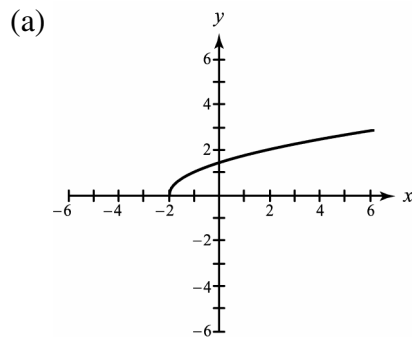
(b) -16

(c) 16

(d) 4

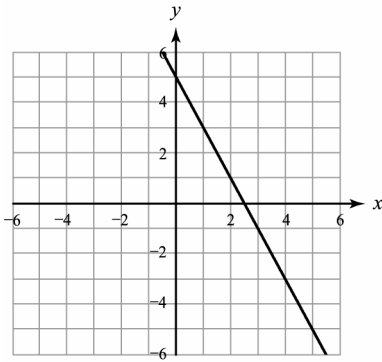
3. Sketch a graph of $f(x) = \sqrt{x} - 2$.

3. _____



4. Use the graph of f to evaluate $f(1)$.

4. _____



(a) 2

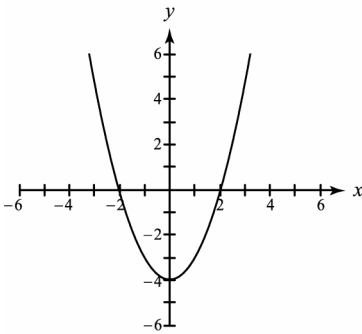
(b) 7

(c) 1

(d) 3

5. Determine the range of f .

5. _____



(a) $-4 \leq y \leq 2$

(b) $-2 \leq y \leq 2$

(c) $y \geq -4$

(d) all real numbers

6. A function f is represented verbally by “Cube the input x and then add 4.”
Give a symbolic representation of f .

6. _____

(a) $f(x) = \sqrt[3]{x+4}$

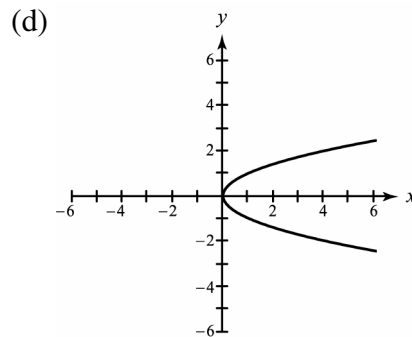
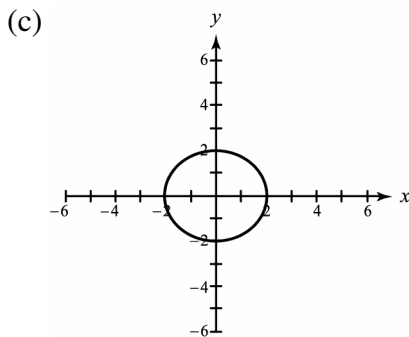
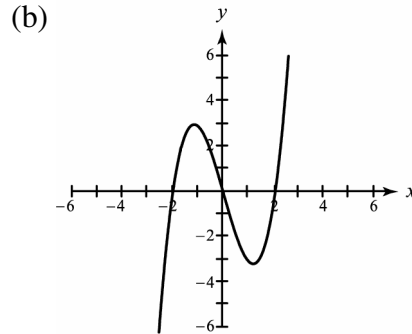
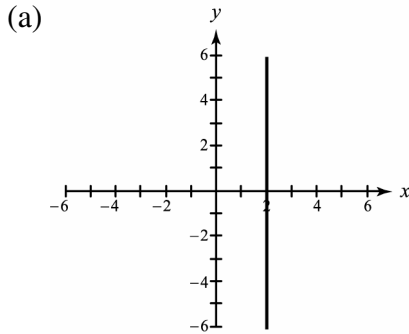
(b) $f(x) = x^3 + 4$

(c) $f(x) = x^3 + 64$

(d) $f(x) = (x+4)^3$

7. Determine which graph represents a function.

7. _____



8. Find the domain of $f(x) = -\frac{2x}{x+4}$.

8. _____

- (a) $x \neq -4$ (b) $x \leq 4$ (c) $x \neq 0$ (d) $x \geq 0$

9. Find the slope and y-intercept of the graph of the linear equation $y = 3x - \frac{5}{2}$.

9

- (a) $m = 3; \left(\frac{5}{6}, 0\right)$ (b) $m = -\frac{1}{3}; \left(-\frac{5}{2}, 0\right)$
 (c) $m = -\frac{1}{3}; \left(0, \frac{5}{6}\right)$ (d) $m = 3; \left(0, -\frac{5}{2}\right)$

10. Find the slope of the line passing through $\left(\frac{3}{2}, 2\right)$ and $\left(1, \frac{1}{2}\right)$.

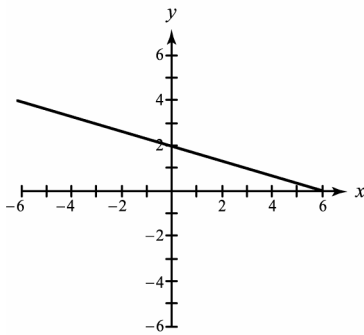
10. _____

- (a) 1 (b) 3 (c) $\frac{1}{3}$ (d) -1

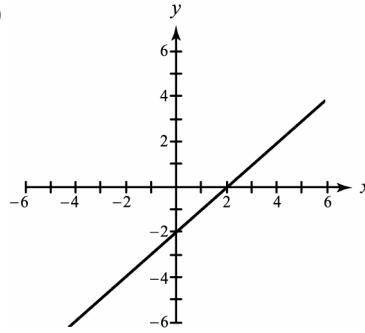
11. Determine which line has a slope of $\frac{1}{3}$.

11. _____

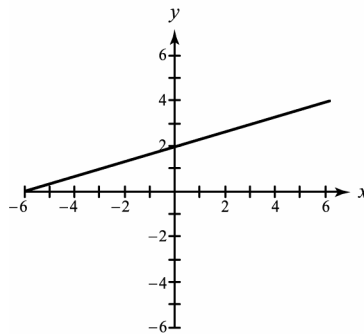
(a)



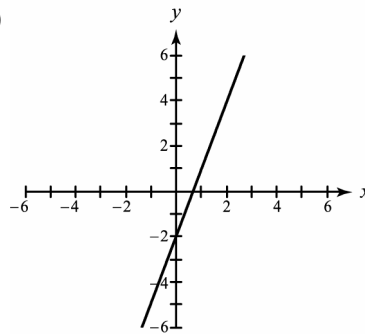
(b)



(c)



(d)



12. Write the slope-intercept form of the line with x -intercept 3 and y -intercept $\frac{3}{4}$. 12. _____

(a) $y = -\frac{1}{4}x + 3$ (b) $y = 4x - 12$ (c) $y = -\frac{1}{4}x + \frac{3}{4}$ (d) $y = 4x + 3$

13. Find the slope-intercept form of the line passing through $(\frac{1}{2}, -2)$ and $(0, -3)$. 13. _____

(a) $y = \frac{1}{2}x + \frac{5}{4}$ (b) $y = \frac{1}{2}x - 3$ (c) $y = 2x - 3$ (d) $y = 2x + 1$

14. Let f be a linear function. Find the slope of the graph of f . 14. _____

x	-2	0	1	2	4
y	8	4	2	0	-4

(a) -2 (b) 4 (c) -4 (d) 2

15. Let f be a linear function. Find the x - and y -intercepts of the graph of f . 15. _____

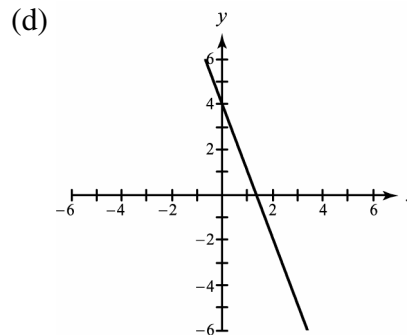
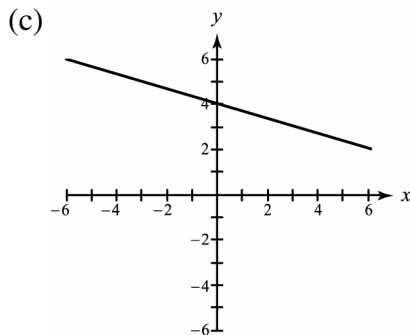
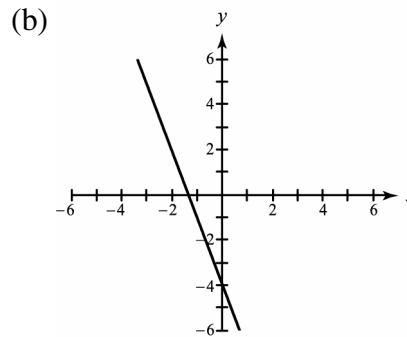
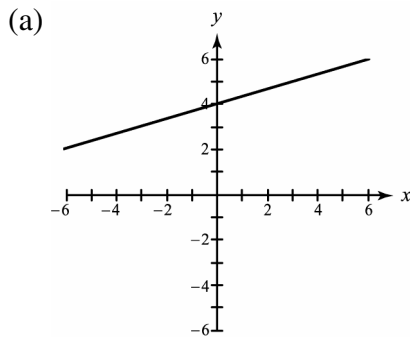
x	-4	-2	-1	0	1
y	-6	0	3	6	9

- (a) x -int : (0,6) (b) x -int : (0,-2) (c) x -int : (6,0) (d) x -int : (-2,0)
 y -int : (-2,0) y -int : (6,0) y -int : (0,-2) y -int : (0,6)

16. Give the slope-intercept form of a line perpendicular to $y = \frac{2}{3}x + 7$, passing through (4, -3). 16. _____

- (a) $y = -\frac{3}{2}x + 3$ (b) $y = \frac{2}{3}x - \frac{17}{3}$ (c) $y = \frac{2}{3}x - 7$ (d) $y = -\frac{3}{2}x - 3$

17. Find the graph of the linear equation $y = -3x + 4$. 17. _____



18. Find the equation of a line that passes through the origin and is perpendicular to the line given in #17. 18. _____

- (a) $y = -3x$ (b) $y = \frac{1}{3}x$ (c) $x = -3y + 4$ (d) $y = \frac{1}{3}x + 4$

19. Find an equation of the vertical line passing through the point $\left(\frac{3}{2}, -\frac{1}{2}\right)$. 19. _____

(a) $\frac{3}{2}x - \frac{1}{2}y = 0$ (b) $x = \frac{3}{2}$ (c) $y = -\frac{1}{2}$ (d) $y = \frac{3}{2}x - \frac{1}{2}$

20. Find an equation of the horizontal line passing through the point $\left(\frac{1}{2}, -\frac{3}{4}\right)$. 20. _____

(a) $y = -\frac{3}{4}$ (b) $y = \frac{1}{2}x - \frac{3}{4}$ (c) $x = \frac{1}{2}$ (d) $\frac{1}{2}x - \frac{3}{4}y = 0$