

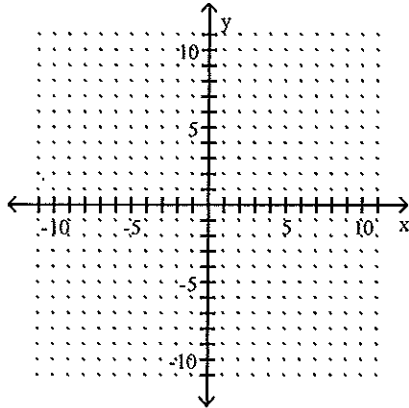
Name _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Determine the slope and the y-intercept. Use the slope and the y-intercept to graph the equation.

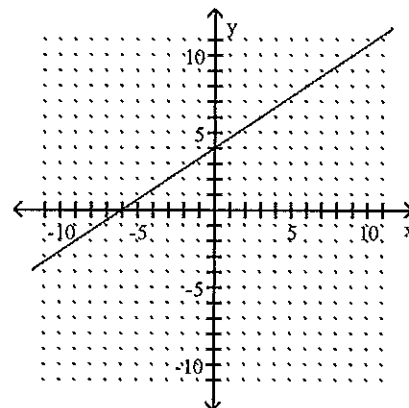
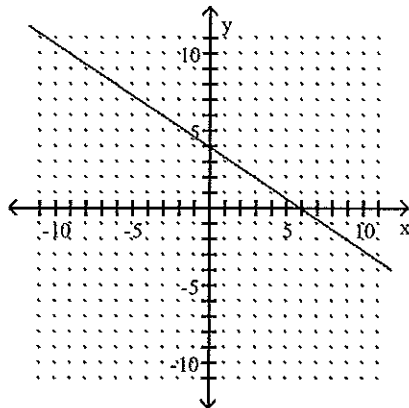
1) $6x + 4y = 24$

1) _____



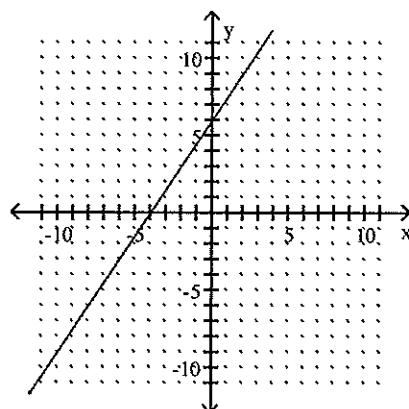
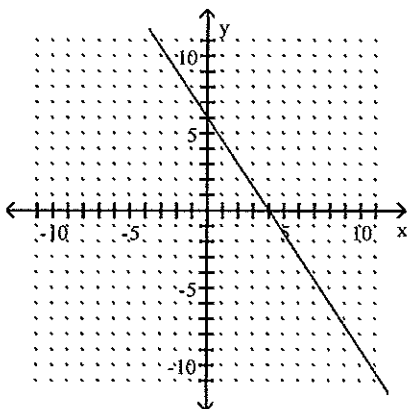
A) slope: $-\frac{2}{3}$; y-intercept: (0, 4)

B) slope: $\frac{2}{3}$; y-intercept: (0, 4)



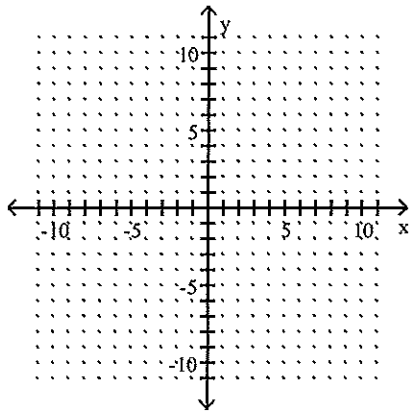
C) slope: $-\frac{3}{2}$; y-intercept: (0, 6)

D) slope: $\frac{3}{2}$; y-intercept: (0, 6)



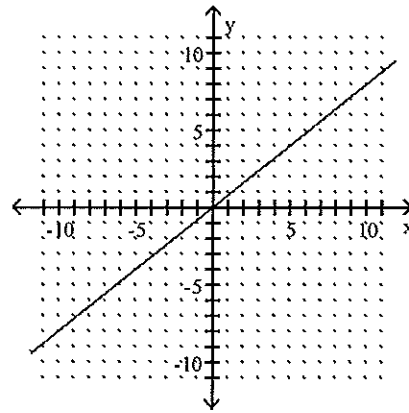
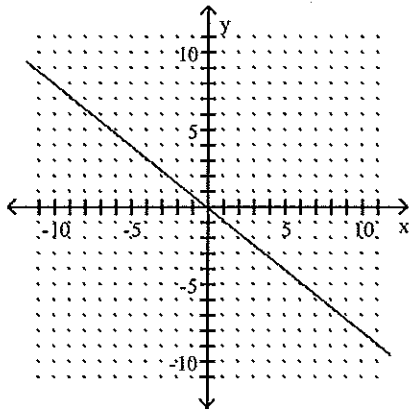
2) $y = -\frac{5}{4}x$

2) _____



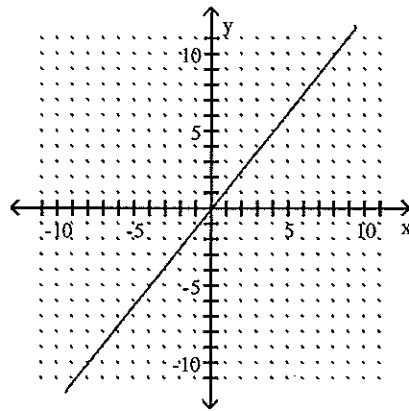
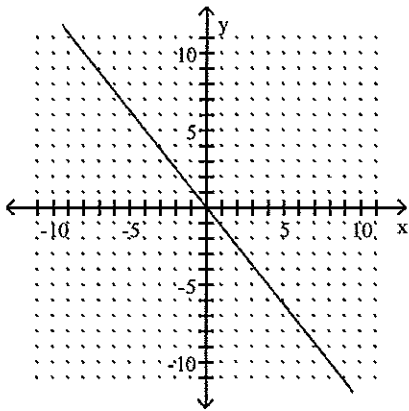
A) slope: $-\frac{4}{5}$; y-intercept: (0, 0)

B) slope: $\frac{4}{5}$; y-intercept: (0, 0)



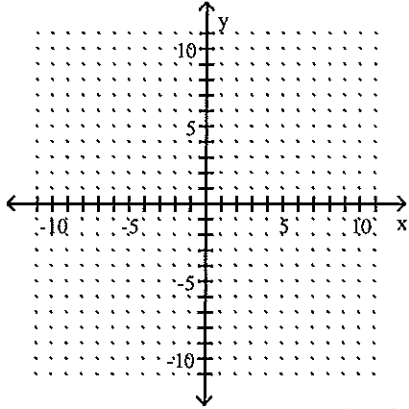
C) slope: $-\frac{5}{4}$; y-intercept: (0, 0)

D) slope: $\frac{5}{4}$; y-intercept: (0, 0)



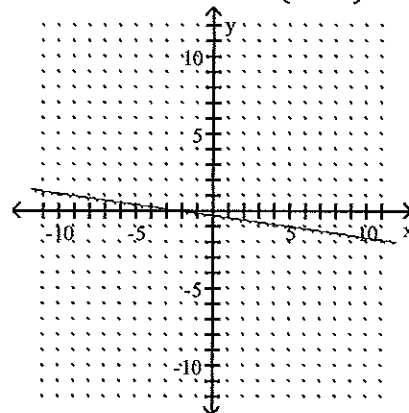
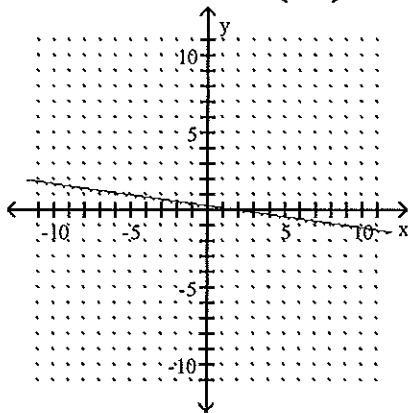
3) $1 - 2(y - 3x) = 5 + 4(x - 4y)$

3) _____



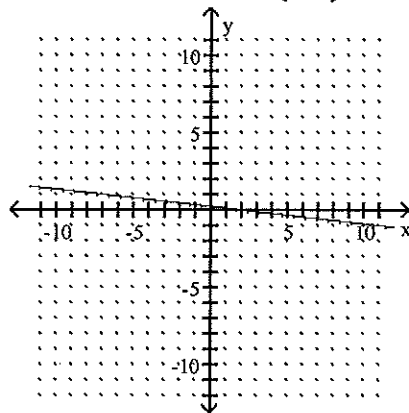
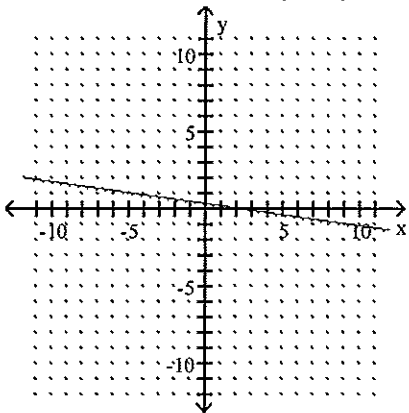
A) slope: $-\frac{1}{7}$; y-intercept: $(0, \frac{2}{7})$

B) slope: $-\frac{1}{7}$; y-intercept: $(0, -\frac{2}{7})$



C) slope: $-\frac{1}{7}$; y-intercept: $(0, \frac{5}{14})$

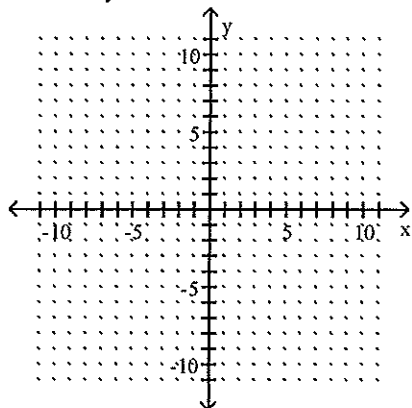
D) slope: $-\frac{1}{9}$; y-intercept: $(0, \frac{2}{9})$



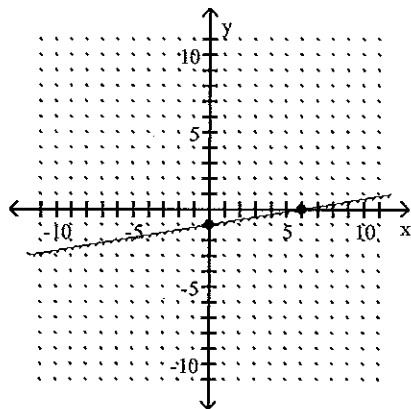
Find the x-intercept and y-intercept, then graph the equation.

4) $-2x - 12y = 12$

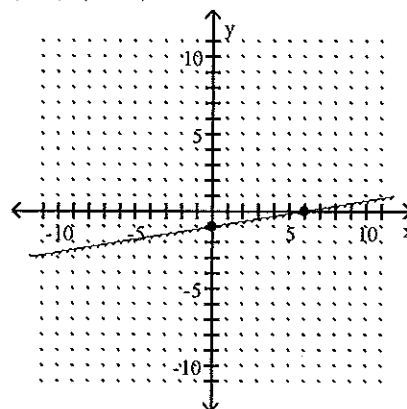
4) _____



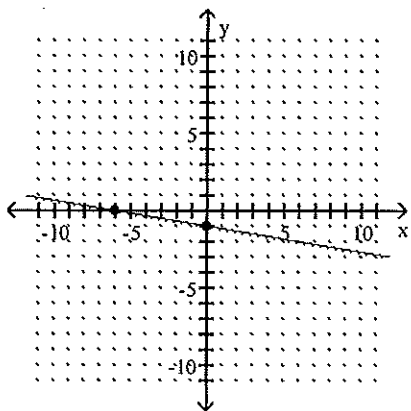
A) $(6, 0), (0, 1)$



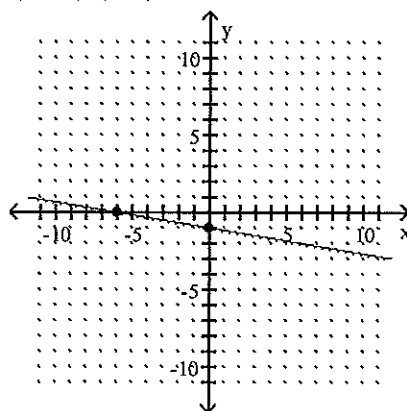
B) $(6, 0), (0, -1)$



C) $(-6, 0), (0, -1)$

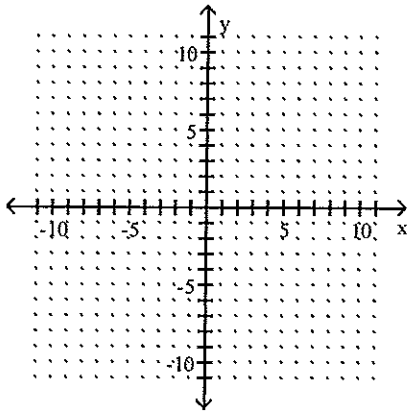


D) $(-6, 0), (0, 1)$



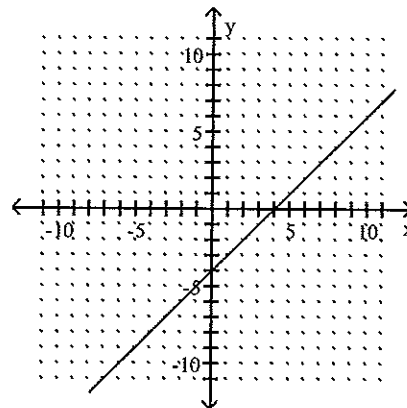
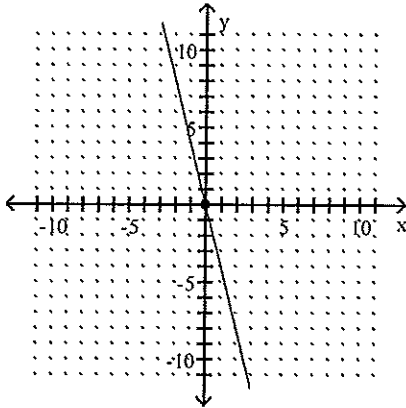
5) $y = 4x$

5) _____



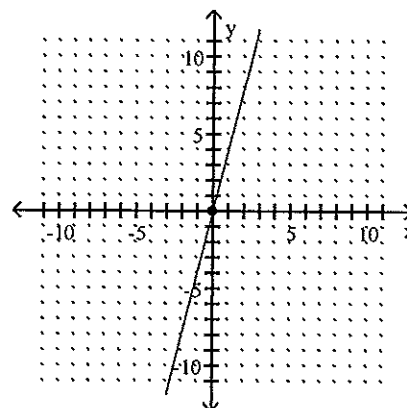
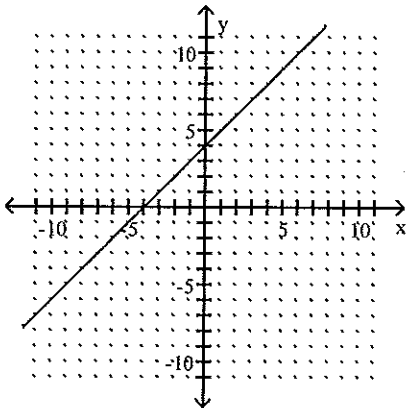
A) (0, 0)

B) (4, 0), (0, -4)



C) (-4, 0), (0, 4)

D) (0, 0)



Determine whether the relation is a function.

6) $9x - 3y = 27$

A) function

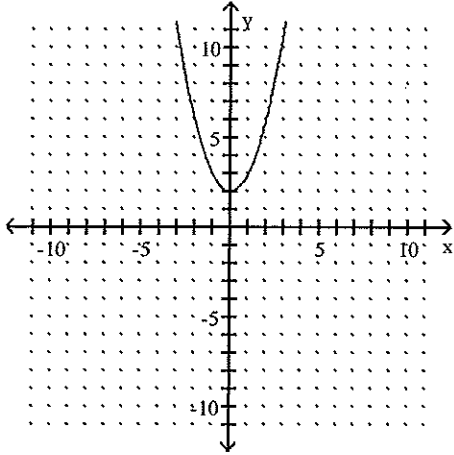
B) not a function

6) _____

Use the graph of the function to determine the function's domain and range.

7)

7) _____



- A) domain: all real numbers; range: all real numbers
- B) domain: all real numbers; range: $y \geq 2$
- C) domain: all real numbers; range: $y \leq 2$
- D) domain: $x \geq 2$; range: all real numbers

Evaluate the function at the given value of x .

8) $f(x) = 3x - 4$, $f\left(-\frac{5}{6}\right)$

8) _____

A) $-\frac{13}{2}$

B) $\frac{3}{2}$

C) $\frac{13}{2}$

D) $-\frac{19}{6}$

9) $f(x) = 4x - 4$, $f(a+3)$

9) _____

A) $4a + 1$

B) $\frac{1}{4}a - 4$

C) $4a - 4$

D) $4a - 8$

For the given function, find the value of x that corresponds to the given value of $f(x)$.

10) $f(x) = -3x + 4$, $f(x) = 10$

10) _____

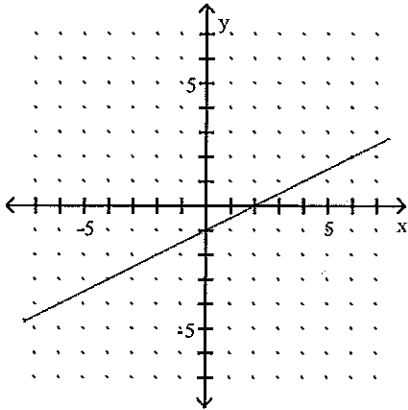
A) 2.3

B) -1.3

C) -2.3

D) 1.3

A graph of the function f is sketched in the figure below. Use the graph to find the indicated values.

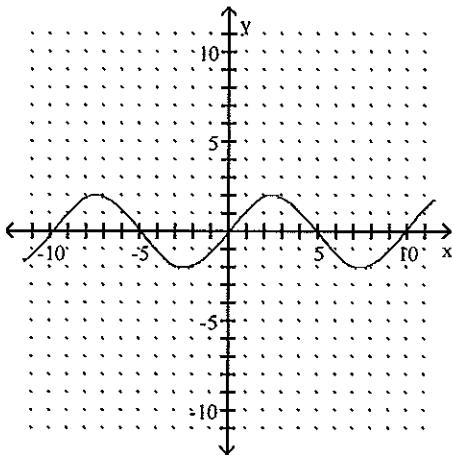


11) Find $f(5)$ 11) _____
 A) -3 B) 3 C) -6 D) -12

12) Find x when $f(x) = 0$ 12) _____
 A) -6 B) -12 C) 3 D) -4

Find the domain and the range of the relation.

13) 13) _____



- A) domain: all real numbers; range: $0 \leq y \leq 2$
- B) domain: all real numbers; range: all real numbers
- C) domain: all real numbers; range: $-2 \leq y \leq 2$
- D) domain: $-2 \leq x \leq 2$; range: all real numbers

Find the x-intercept and y-intercept of the function.

14) $f(x) = 2x - 8$ 14) _____
 A) x-intercept: $(-8, 0)$ B) x-intercept: $(4, 0)$
 y-intercept: $(0, 4)$ y-intercept: $(0, -8)$
 C) x-intercept: $(-4, 0)$ D) x-intercept: $(8, 0)$
 y-intercept: $(0, 8)$ y-intercept: $(0, -4)$

Find an equation of the line that has the given slope and contains the given point. If possible, write your equation in slope-intercept form.

15) $m = -3; (-8, 8)$ 15) _____
 A) $y = -3x + 16$ B) $y = -3x - 16$ C) $x = -3y - 16$ D) $x = -3y + 16$

16) $m = -\frac{3}{8}; (4, 2)$ 16) _____
 A) $y = -\frac{8}{3}x - \frac{28}{3}$ B) $y = -\frac{3}{8}x + \frac{7}{2}$ C) $y = -\frac{3}{8}x - \frac{7}{2}$ D) $y = \frac{3}{8}x - \frac{7}{2}$

Find the equation of the line that passes through the two given points. If possible, write your equation in slope-intercept form.

17) $(4, -2)$ and $(-1, 7)$ 17) _____
 A) $x = -\frac{9}{5}y + \frac{26}{5}$ B) $y = \frac{9}{5}x + \frac{26}{5}$ C) $x = \frac{9}{5}y + \frac{26}{5}$ D) $y = -\frac{9}{5}x + \frac{26}{5}$

Find the approximate equation of the line that passes through the two points. Write the equation in slope-intercept form. Round the slope and the constant term to two decimal places.

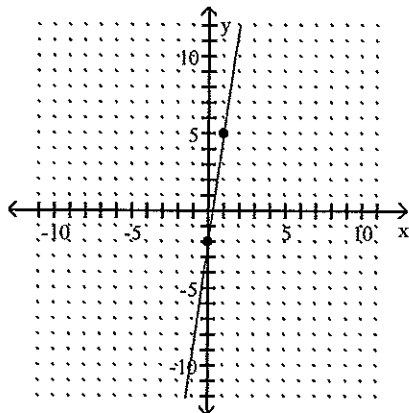
18) $(3.9, -3.7)$ and $(2.3, 4.9)$ 18) _____
 A) $y = -0.19x + 49.96$ B) $y = -0.95x + 2.13$
 C) $y = 5.38x + -24.66$ D) $y = -5.37x + 17.26$

Find an equation of the line that contains the given point and is perpendicular to the given line. If possible, write your equation in slope-intercept form.

19) $(2, -3)$, $y = \frac{1}{4}x + 5$ 19) _____
 A) $y = -4x - 5$ B) $y = -\frac{1}{4}x - \frac{5}{4}$ C) $y = -4x + 5$ D) $y = 4x - 5$

Find an equation for the line.

20) 20) _____



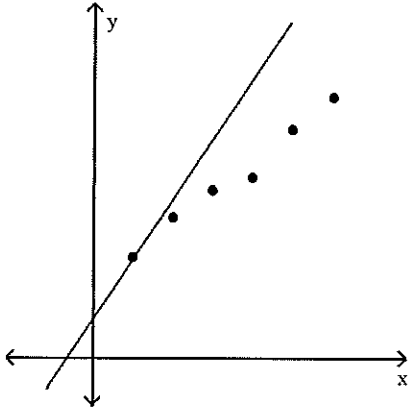
A) $y = -7x + 2$ B) $y = 2x + 7$ C) $y = 7x - 2$ D) $y = -7x - 2$

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Solve the problem.

- 21) Consider the graph of the data and the model $y = mx + b$. Sketch the graph of a linear model that better describes the data and then explain how you would adjust the slope and the y -intercept of the original model so that it would better describe the data.

21) _____



MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 22) Attendance has been increasing for a minor league hockey team as they have had more success. The percentage of the seats filled in different years is given in the table. Let p be the percentage of seats filled each year that is t years since 2000. Find an equation of a linear model to describe the data.

22) _____

Year	Percentage of seats filled
2001	62.9
2002	65.8
2003	67.6
2004	70.1
2005	72.3

- A) $p = 2.31t + 60.81$
 C) $p = 2.9t + 62.9$

- B) $p = 2.35t + 9.4$
 D) $p = 3t - 5940$

- 23) The total sales made by a salesperson was \$25,000 after 3 months and \$68,000 after 23 months. Predict the total sales after 42 months assuming the sales increased approximately linearly.

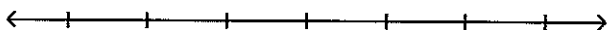
23) _____

- A) \$108,950 B) \$108,850 C) \$108,820 D) \$108,892

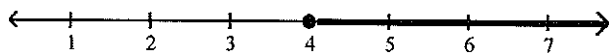
Solve the inequality and express the solution set in interval notation. Graph the solution set on the real number line.

24) $-2(5x - 1) < -12x + 10$

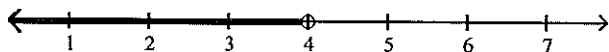
24) _____



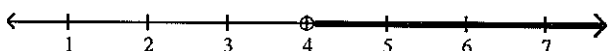
A) $x \geq 4$; $[4, \infty)$



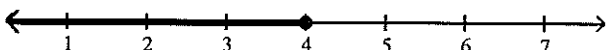
B) $x < 4$; $(-\infty, 4)$



C) $x > 4$; $(4, \infty)$

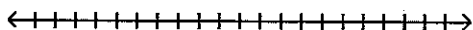


D) $x \leq 4$; $(-\infty, 4]$



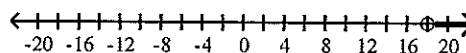
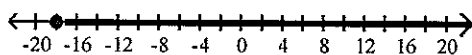
25) $\frac{x}{3} \geq \frac{x}{18} + 5$

25) _____



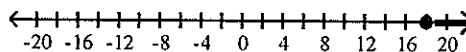
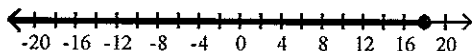
A) $x \geq -18$; $[-18, \infty)$

B) $x > 18$; $(18, \infty)$



C) $x \leq 18$; $(-\infty, 18]$

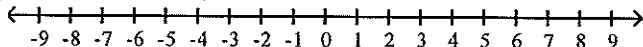
D) $x \geq 18$; $[18, \infty)$



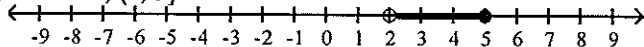
Solve the inequality. Describe the solution set as an inequality, in interval notation, and in a graph.

26) $-23 \leq -5x + 2 < -8$

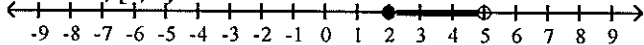
26) _____



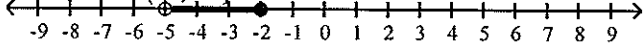
A) $2 < x \leq 5$; $(2, 5]$



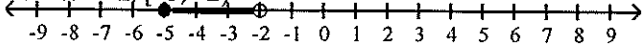
B) $2 \leq x < 5$; $[2, 5)$



C) $-5 < x \leq -2$; $(-5, -2]$



D) $-5 \leq x < -2$; $[-5, -2)$

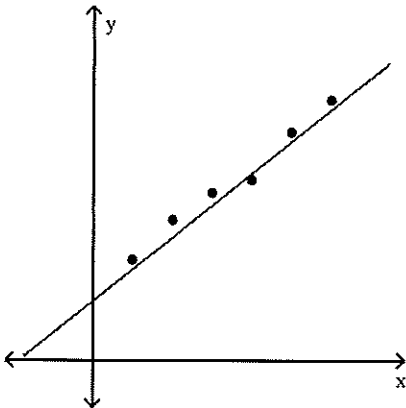


Answer Key

Testname: CHAPTER 5 TEST 2

- 1) C
- 2) C
- 3) A
- 4) C
- 5) D
- 6) A
- 7) B
- 8) A
- 9) D
- 10) B
- 11) A
- 12) D
- 13) C
- 14) B
- 15) B
- 16) B
- 17) D
- 18) D
- 19) C
- 20) C

21) Decrease the slope and raise the y-intercept. The improved model is sketched in the figure below.



- 22) A
- 23) B
- 24) B
- 25) D
- 26) A