Tests from past semesters are provided as a study preparation tool. As tests are created by different instructors, problems on current tests may differ. Sample tests are a good beginning point in your test preparation but it is recommended that you don't use sample tests as your only study resource

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

Express the statement as an algebraic expression.

1) Alexander is t years old. Write an expression that represents Benjamin's age if he is 6 times as old as Alexander.

1) _____

A) 6t

B) 6t + t

C) $\dfrac{6}{t}$

D) 6 + t

Select a variable to represent one quantity and state what that variable represents. Express the second quantity in terms of the variable selected.

2) The average time it takes to get through a check–out line at a large wholesale club is 11 minutes more than 4 times the time it takes to get through a check–out line at a small grocery store, s.

2) _____

A) let s = time at small store, then 11·4 + s = time at large club
B) let s = time at small store, then 4s + 11 = time at large club
C) let s = time at small store, then 11s + 4 = time at large club
D) let s = time at small store, then (11 + 4)s = time at large club

Write an equation to represent the problem.

3) Scot and Elizabeth ate dinner at an upscale bistro. The cost of their meals plus a 22% tip was $ 66.98.

3) _____

A) x + 22x = 66.98
C) x + 0.22x = 66.98

B) x + 2.2x = 66.98
D) x + 0.22 = 66.98

Set up an equation that can be used to solve the problem. Solve the equation and answer the question asked.

4) When Milo got promoted at work, he received a 5% pay raise. He now earns $71,400 per year. What was his annual salary before his raise?

4) _____

A) $3400

B) $3570

C) $68,000

D) $71,400

Solve the problem.

    5) The length of a rectangular storage room is 4 feet longer than its width. What are the dimensions   5) _____
        of the room if the area of the room is 77 square feet?

   A) 6 ft by 10 ft   B) 8 ft by 12 ft   C) 7 ft by 11 ft   D) 6 ft by 12 ft

Set up an equation that can be used to solve the problem. Solve the equation and answer the question asked.

    6) Linda and Dave leave simultaneously from the same starting point biking in opposite directions.   6) _____
        Linda bikes at 6 miles per hour and Dave bikes at 10 miles per hour. How long will it be until they
        are 27 miles apart from each other?

          A) 6.8 hours   B) 0.5 hours   C) 1.7 hours   D) 0.6 hours

List the ordered pair corresponding to the point.

    7) B   7) _____
          A) (3, 4)   B) (–3, 4)   C) (4, 3)   D) (4, –3)
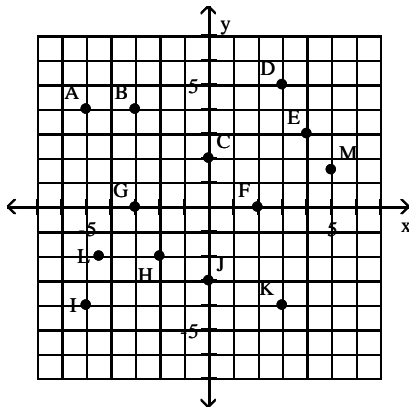
Indicate whether the distinct lines, line 1 and line 2 are parallel, perpendicular, or neither.

8) $m_1 = \dfrac{5}{8}$, $m_2 = \dfrac{8}{5}$

8) _____

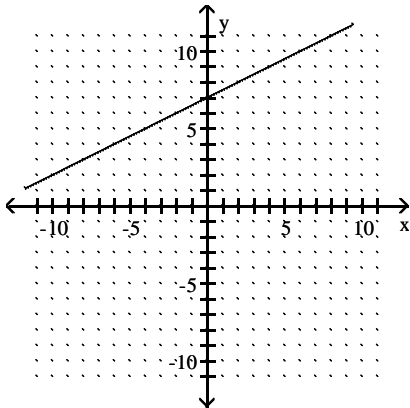   A) parallel   B) perpendicular   C) neither

Graph by plotting points. Plot at least three points for the graph.
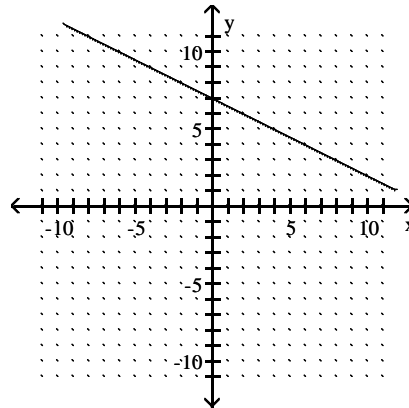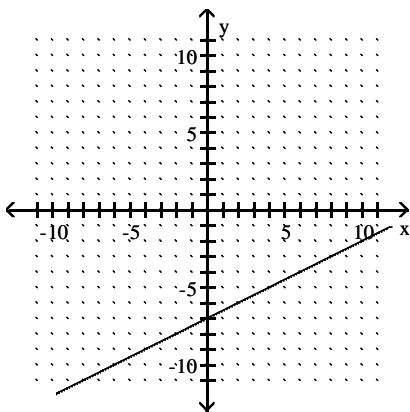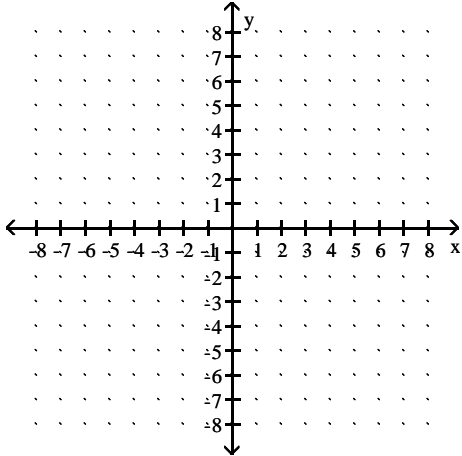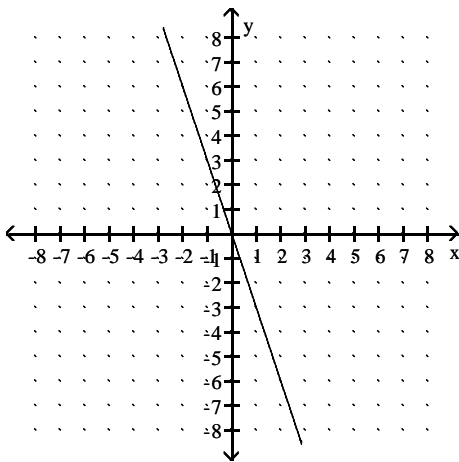
9) $2x - 4y = 28$

9) _____

A)

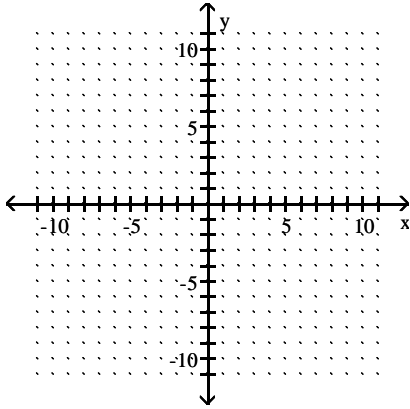
B)

C)

D)

A-3
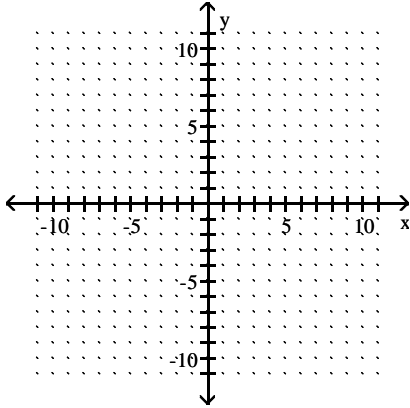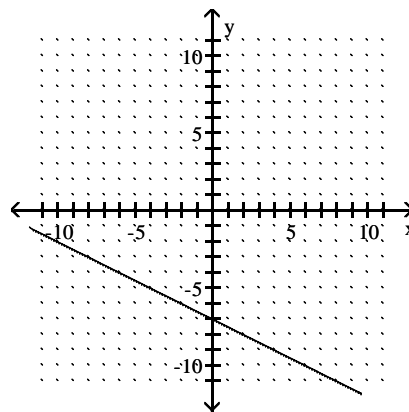
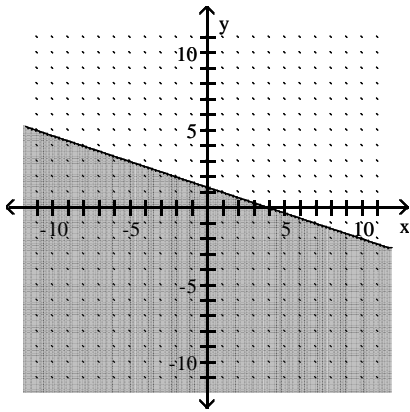**Graph the equation.**

10) y = –3

10) _____

A)

B)
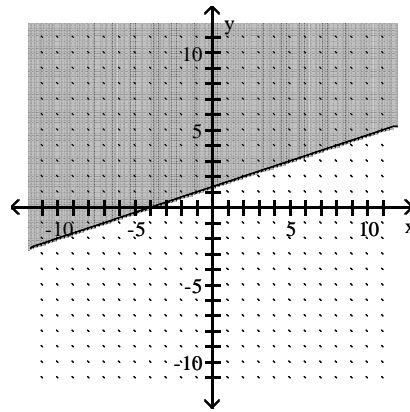
C)

D)

A-4
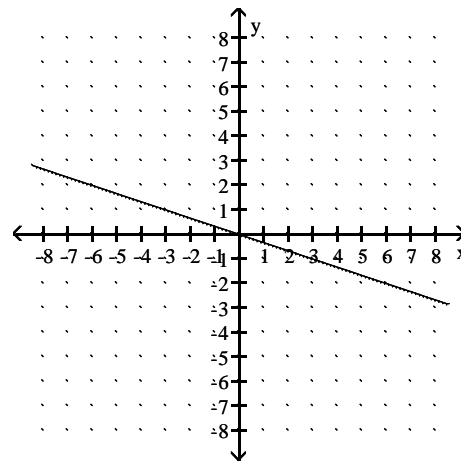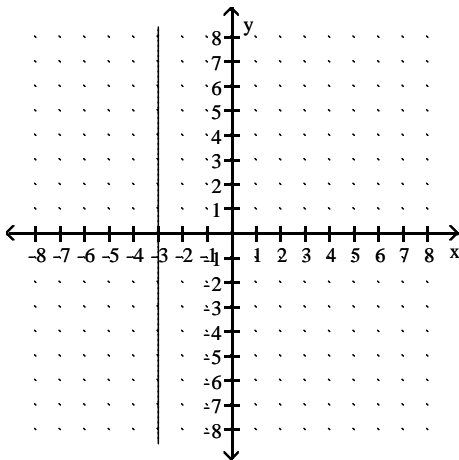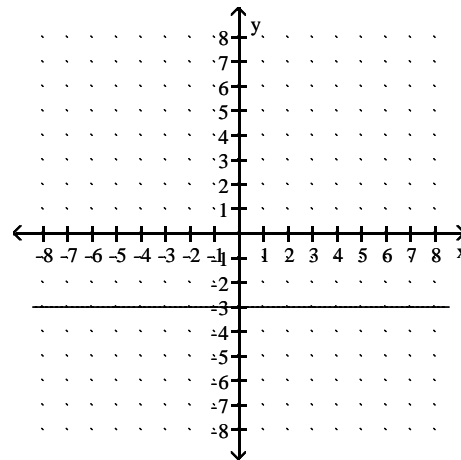
Graph the inequality.
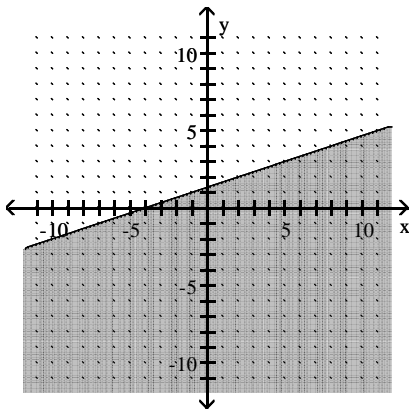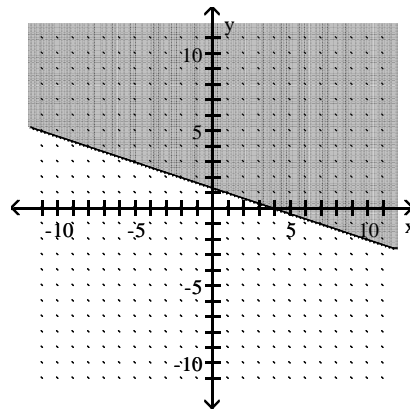
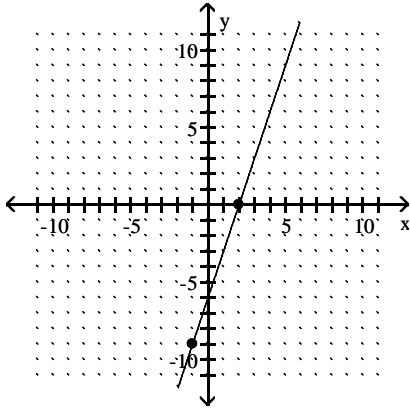11) x + 3y ≥ 4

11) _____

A)

B)

C)

D)

A-5

By observing the vertical and horizontal change of the line between the two points indicated, determine the slope of the line.

12)

12) _____

A) $m = 3$ B) $m = -\dfrac{1}{3}$ C) $m = \dfrac{1}{3}$ D) $m = -3$

Determine the slope and y–intercept of the line represented by the given equation.

13) $y = \dfrac{5}{6}x - \dfrac{5}{2}$

13) _____

A) $m = \dfrac{5}{6}$; y–intercept is $(0, -\dfrac{5}{2})$ B) $m = -\dfrac{5}{6}$; y–intercept is $(0, \dfrac{5}{2})$

C) $m = \dfrac{6}{5}$; y–intercept is $(0, \dfrac{5}{2})$ D) $m = -\dfrac{5}{2}$; y–intercept is $(0, \dfrac{5}{6})$

Find the slope of the line through the given points.

14) $(-5, 9)$ and $(8, 3)$

14) _____

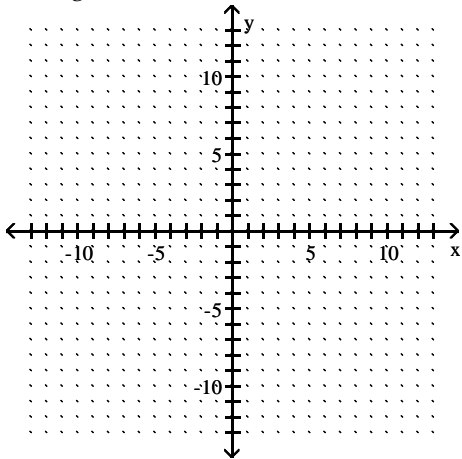A) $m = \dfrac{6}{13}$ B) $m = -\dfrac{6}{13}$ C) $m = 4$ D) $m = -\dfrac{13}{6}$
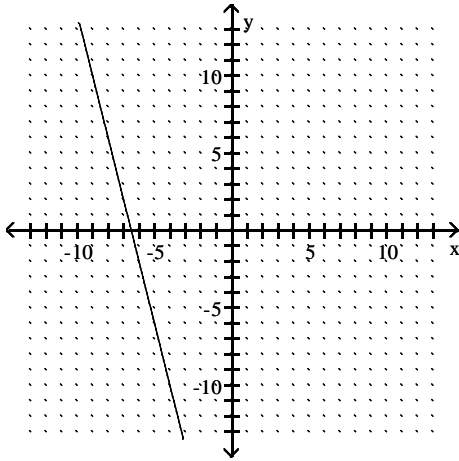
A-6

Graph the line with the given slope that goes through the given point.

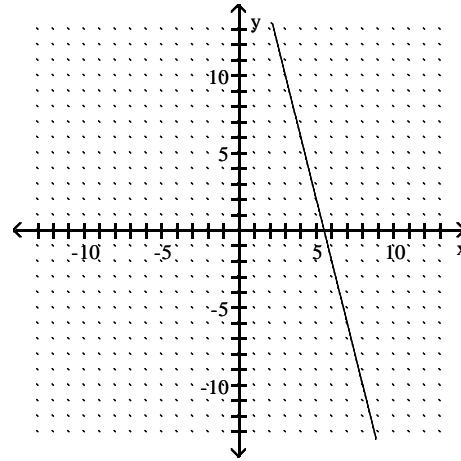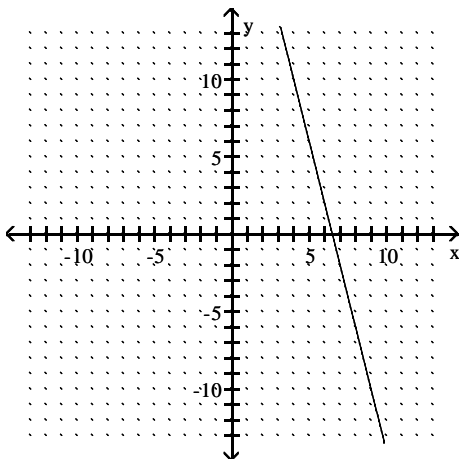15) through (6, 2) with m = –4
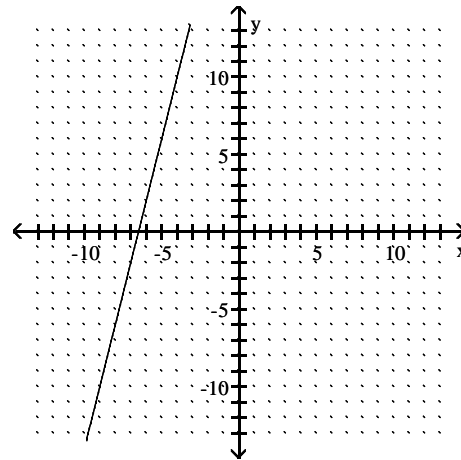
15) _____

A)

B)

C)

D)

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

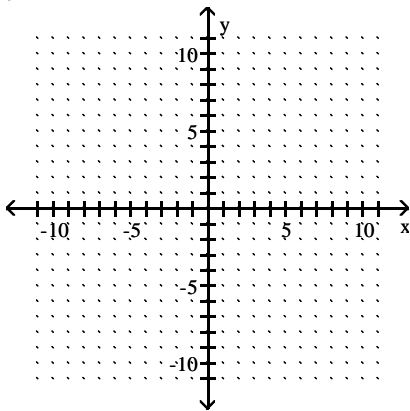**Express the statement as an algebraic expression.**

16) Twice the sum of a number and 50   16) _____

Graph using the x– and y–intercepts.

17) $y = -2x + 7$ 17) _____

Write the equation of the line, with the given properties, in slope –intercept form.

18) Slope = 3, through (–8, –7)   18) _____

19) Through (–6, –8) and (–5, –3) 19) _____

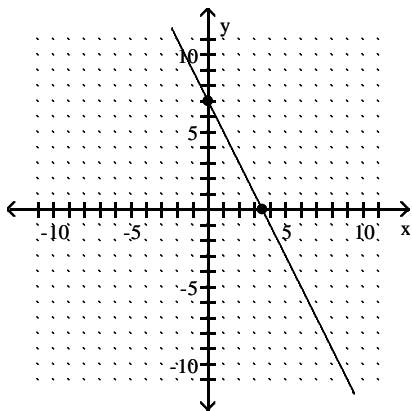**Set up an equation that can be used to solve the problem. Solve the equation and answer the question asked.**

20) The manager of a coffee shop has one type of coffee that sells for $6 per pound and 20) _____
another type that sells for $15 per pound. The manager wishes to mix 100 pounds of the
$15 coffee to get a mixture that will sell for $10 per pound. How many pounds of the $6
coffee should be used?

1) A
2) B
3) C
4) C
5) C
6) C
7) B
8) C
9) C
10) D
11) D
12) A
13) A
14) B
15) C
16) $2(x + 50)$
17)

18) $y = 3x + 17$
19) $y = 5x + 22$
20) 125 pounds