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

State the quadrant in which or axis on which the point is located.

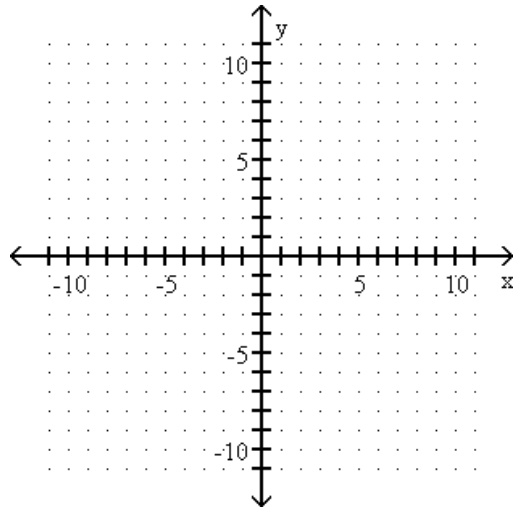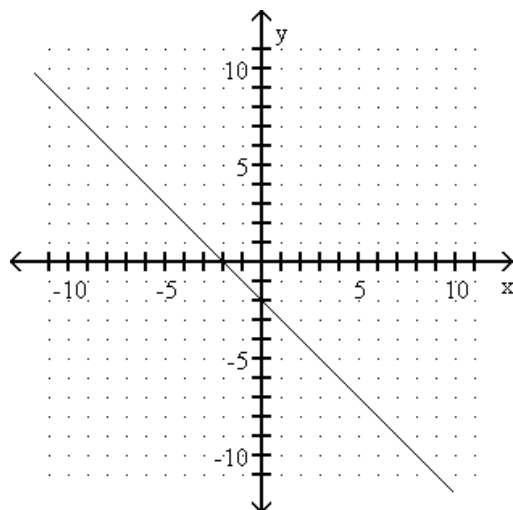1) $(7, 7)$ 1) _____
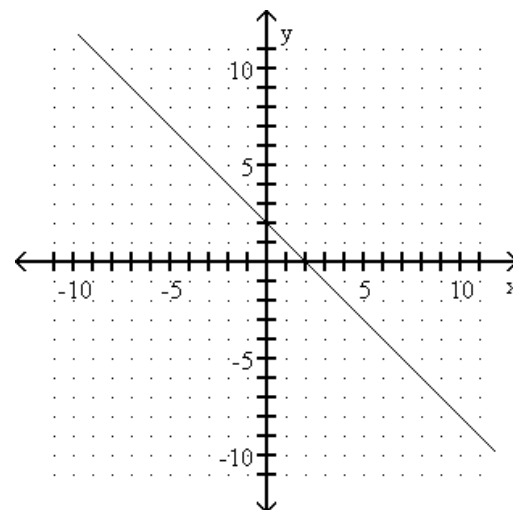
     A) III   B) IV   C) II   D) I

Graph the equation.

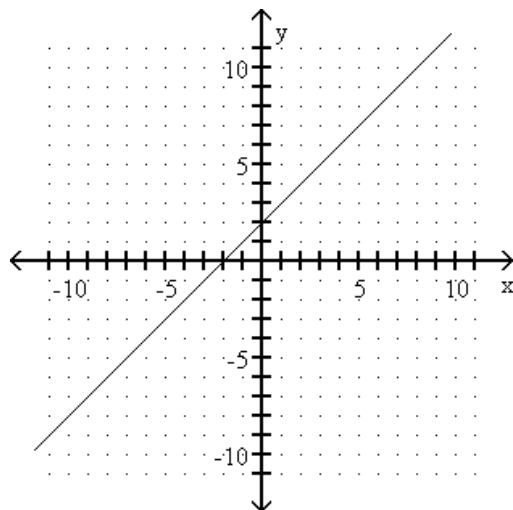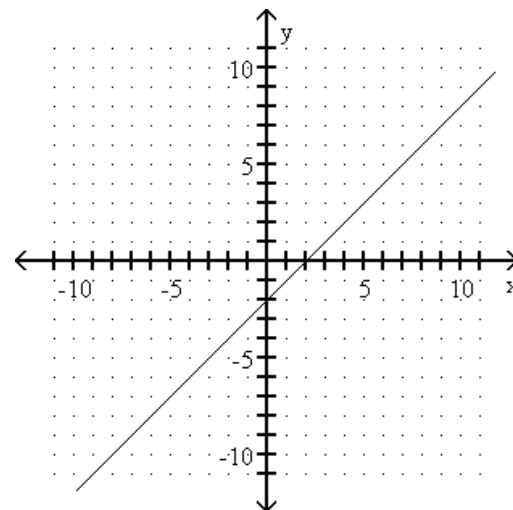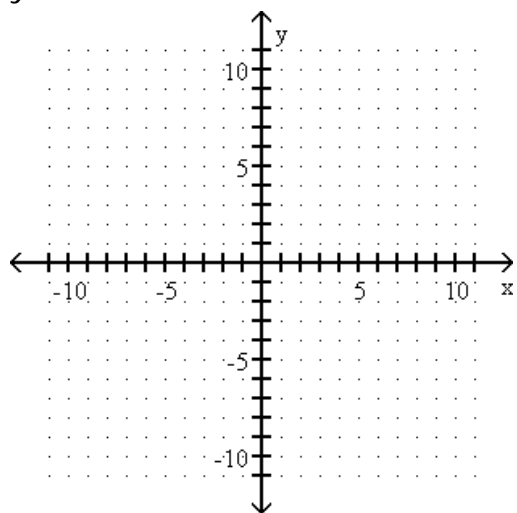2) $x + y = 2$ 2) _____

A)

B)

C)

D)
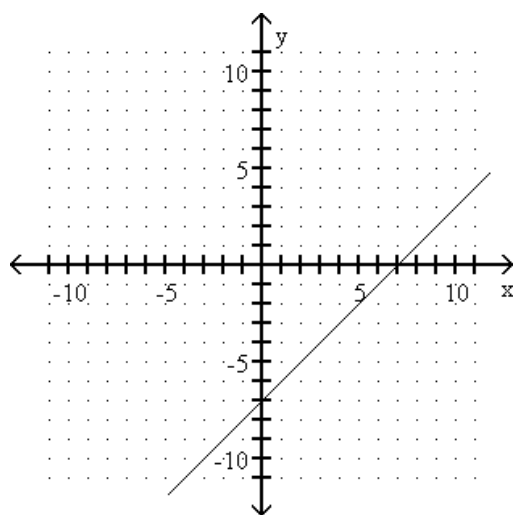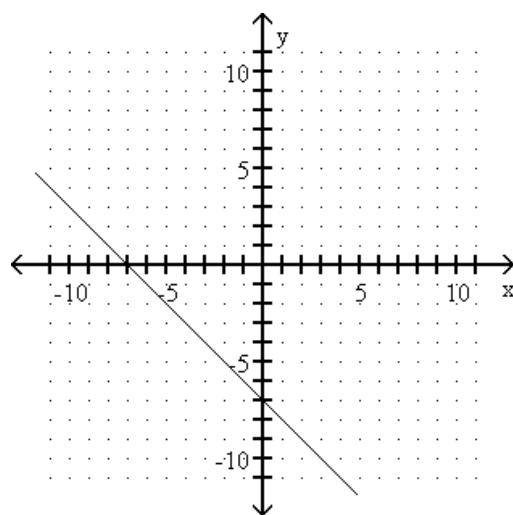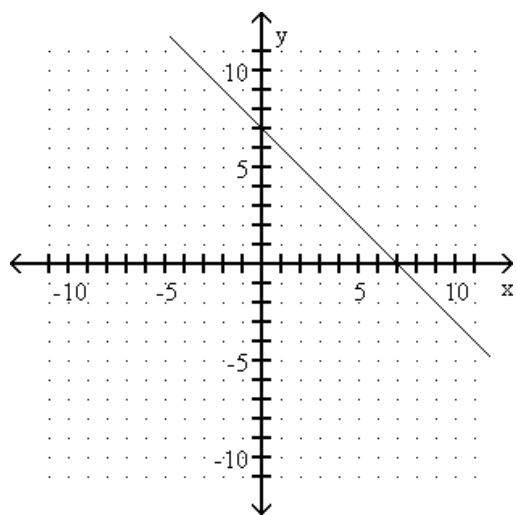
3) $y = x - 7$

3) _____

A)
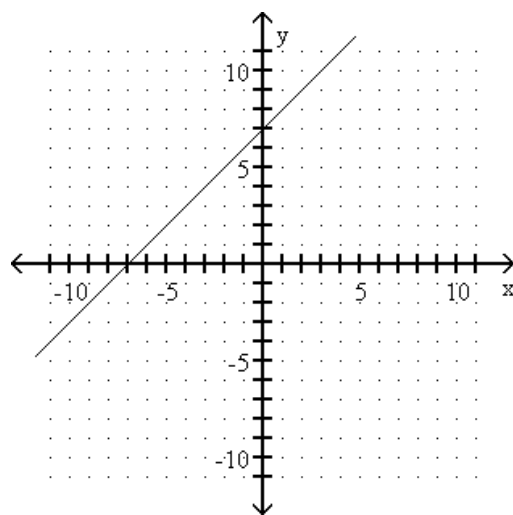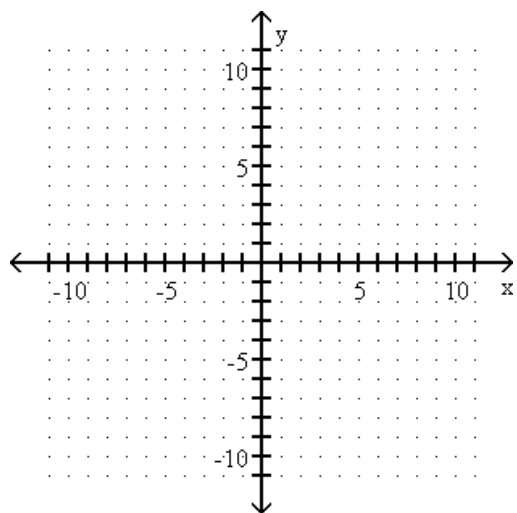
B)

C)

D)

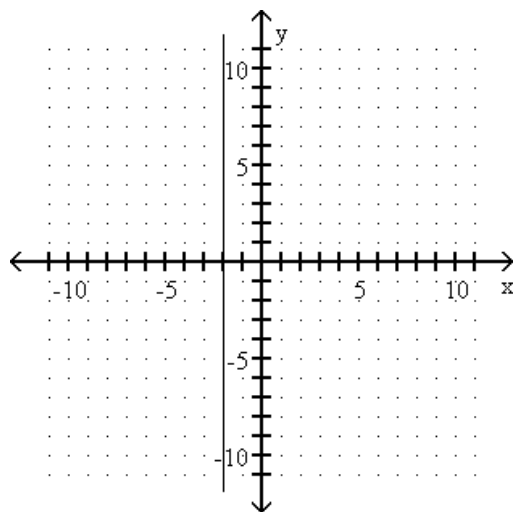4) x = 2

4) _____

A)

B)

C)

D)

5) y = 2x - 6

A)

B)

C)

D)

4
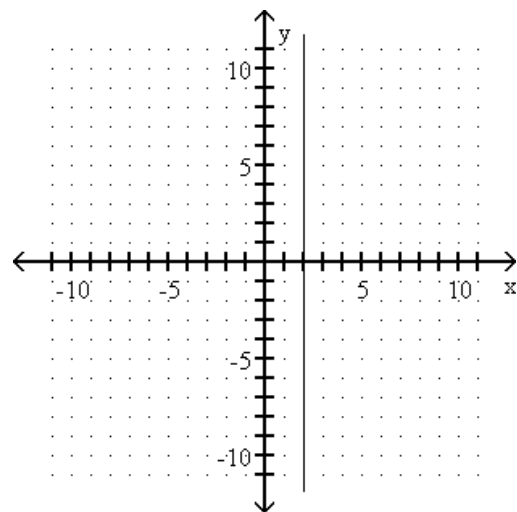
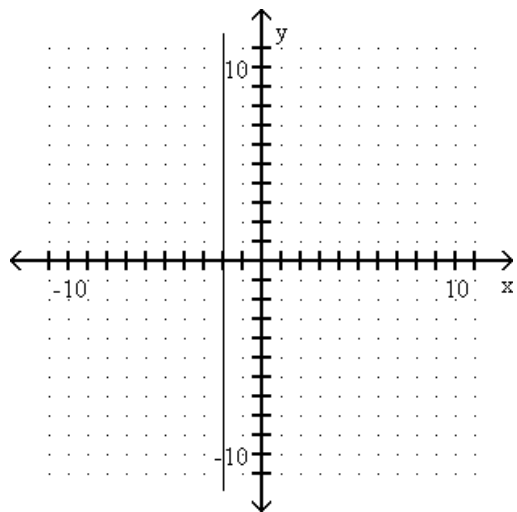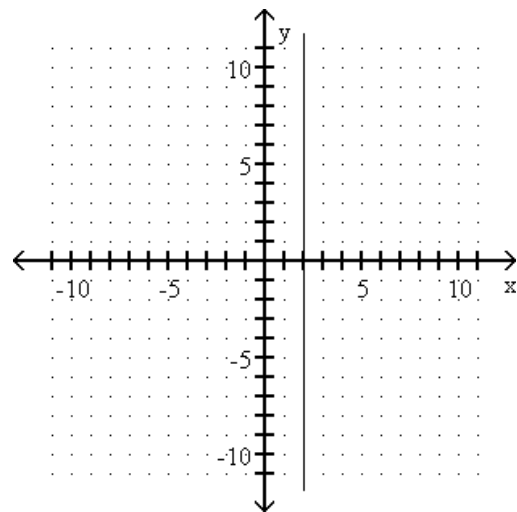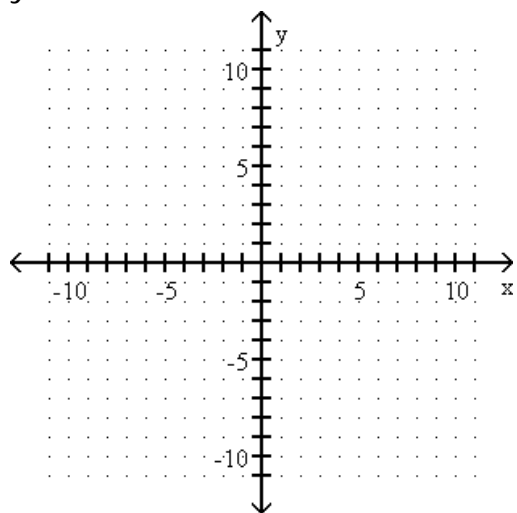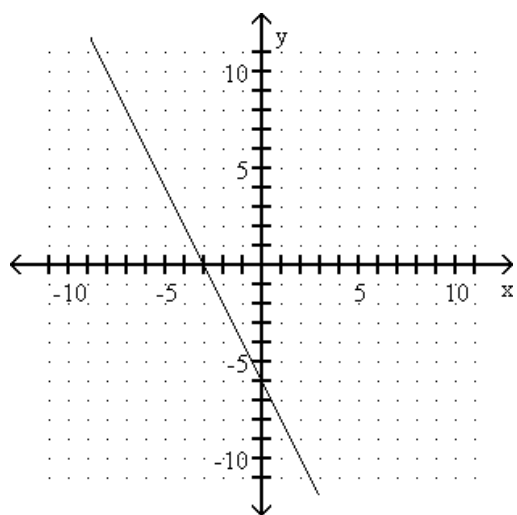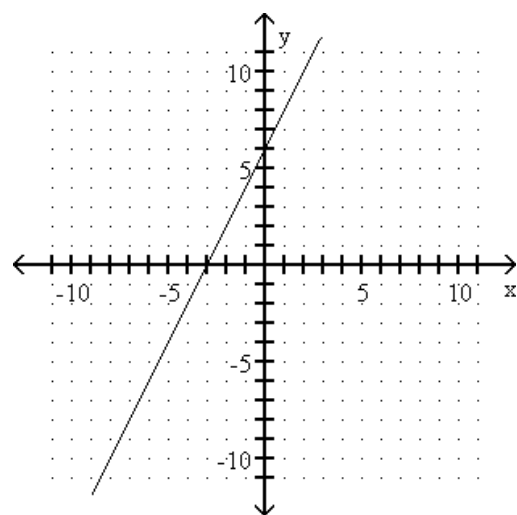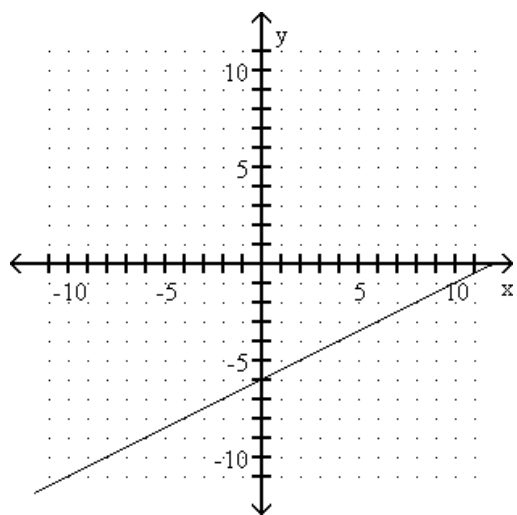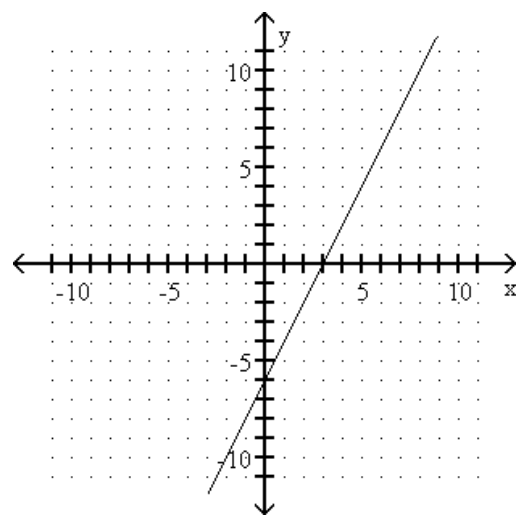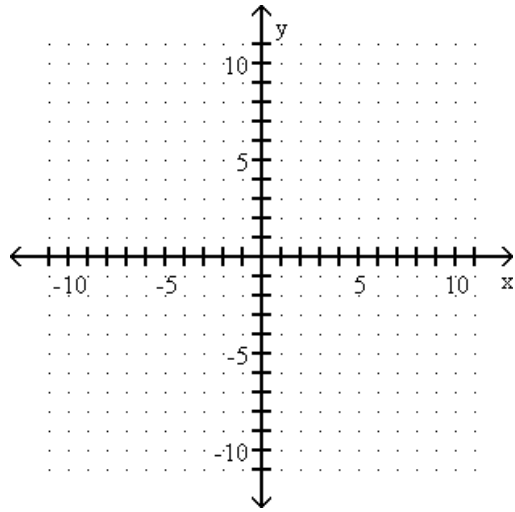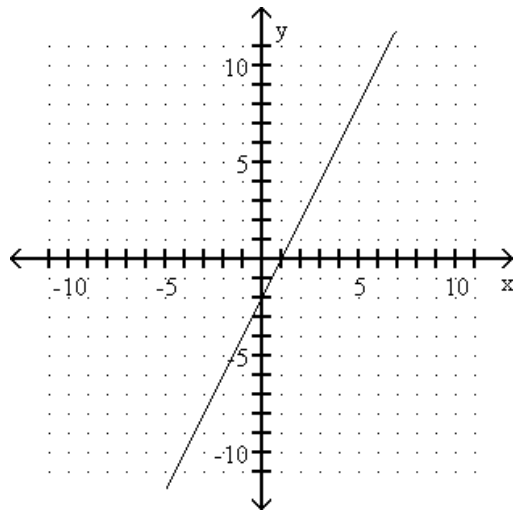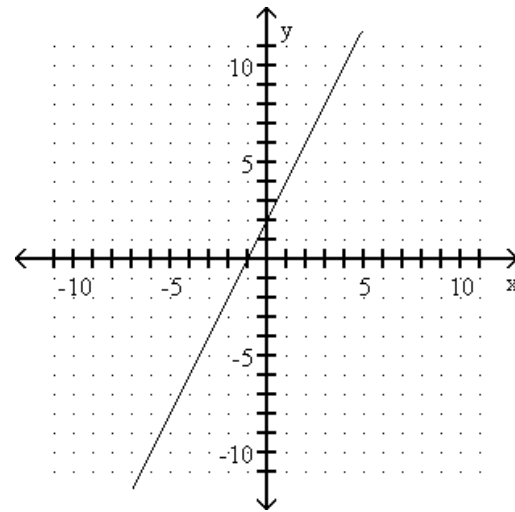6) $2x - y = -2$ 6) _____

A)

B)

C)
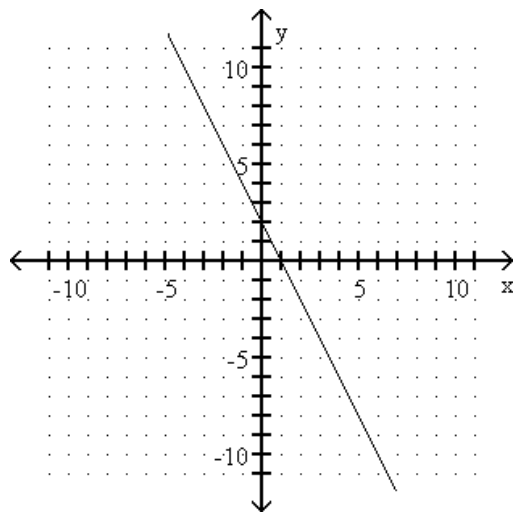
D)
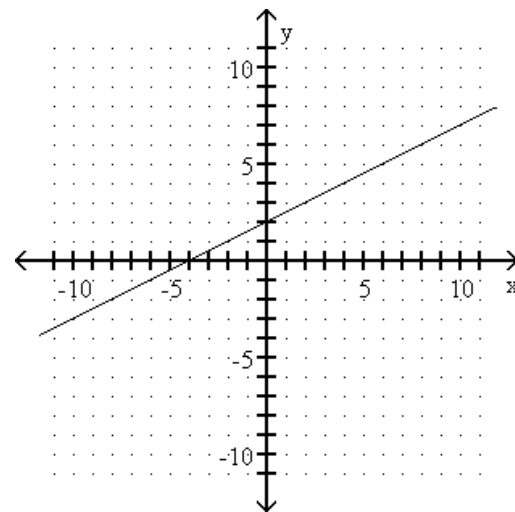
Solve.

7) Alison sets aside $40 each month to spend on books and CDs. If she spends c dollars on CDs in   7) _____
a given month, then she may spend b dollars on books, where $c + b = 40$. Find the amount
Alison may spend on books in March if she spends $31 on CDs.

   A) $16   B) $71   C) $9   D) $20

8) The value, v, in hundreds of dollars, of Juan's computer is approximated by $v = -0.50t + 8$ 8) _____
where t is the number of years since he first bought the computer. Find the value of the
computer 6 years after it was purchased.

   A) $680   B) $200   C) $500   D) $1100

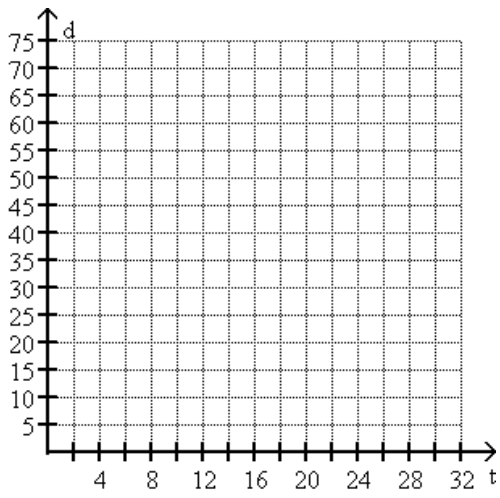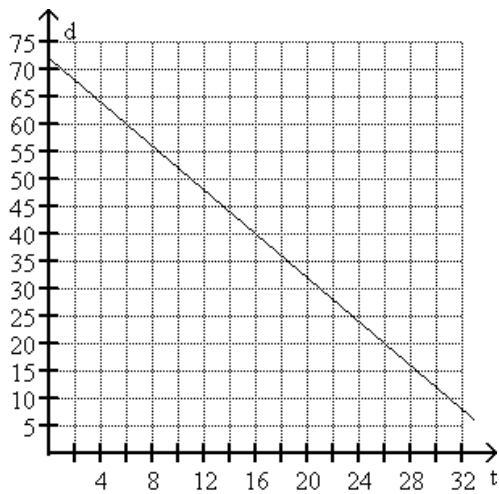9) During the month of January 1997, the depth, d, of snow in inches at the base of one ski resort could be approximated by $d = -2t + 67$, where t is the number of days since December 31st. Graph the equation and use the graph to estimate the depth of snow on January 25th.
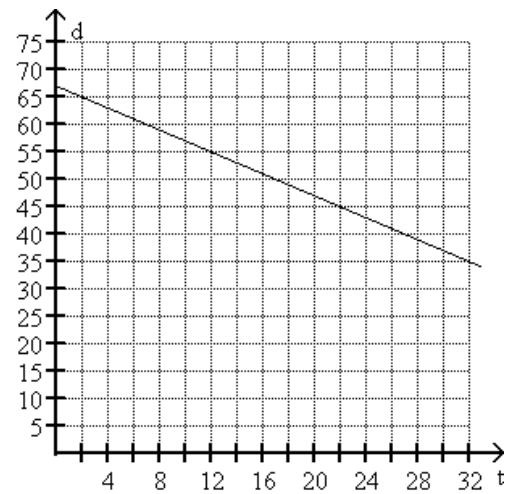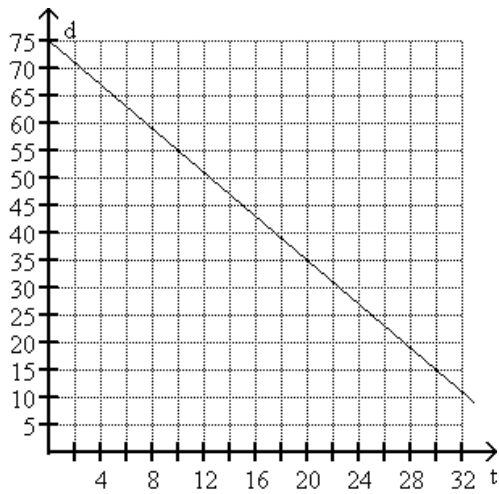
9) _____

A) 22 inches

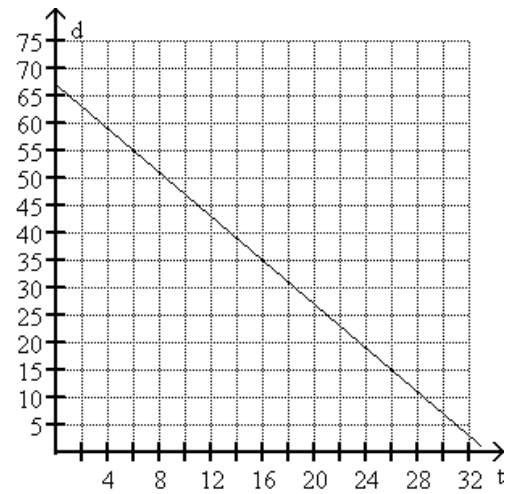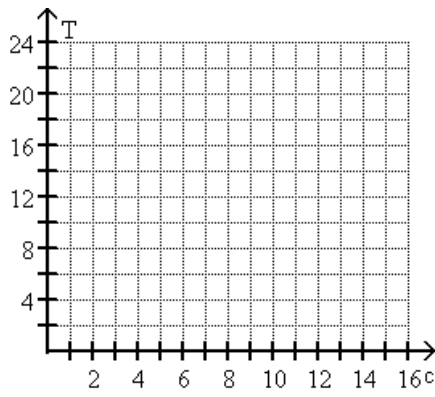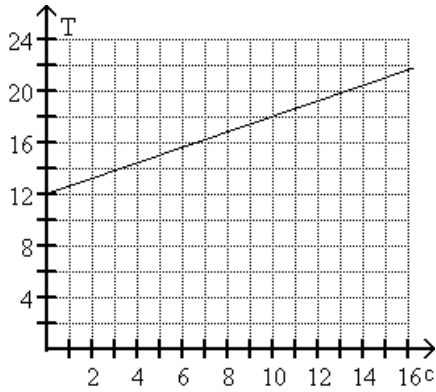B) 42 inches

C) 25 inches

D) 17 inches

10) The cost, T, in hundreds of dollars, of tuition at one community college is given by   10) _____
   T = 3 + 1.25c, where c is the number of credits for which a student registers. Graph the
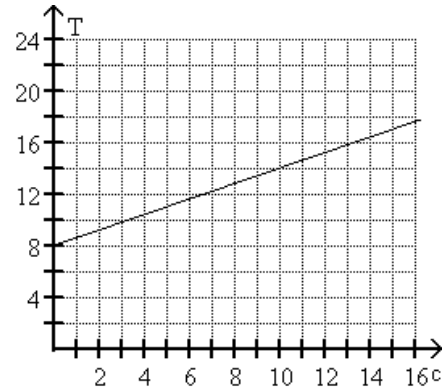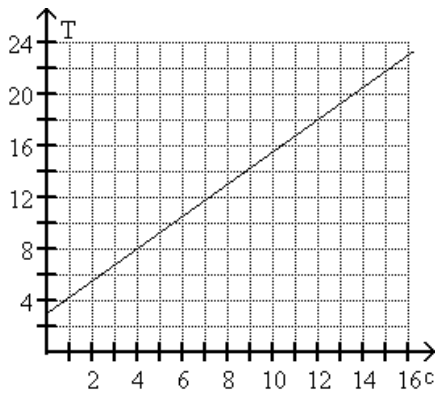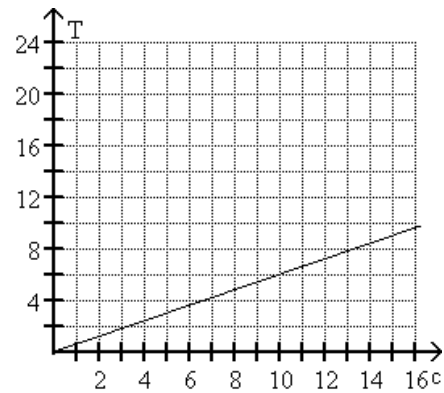   equation, and find the cost if a student registers for 14 credits.

A) About $2040

B) About $1640

C) $2050

D) About $840

Provide an appropriate response.
   11) If a circle with a diameter of 11.4 units were to be drawn in the coordinate plane with its center   11) _____
      at the origin, what would be the coordinates of its x- and y-intercepts?
      A) (11.4, 0), (0, 11.4)   B) (-11.4, 0), (11.4, 0), (0, -11.4), (0, 11.4)
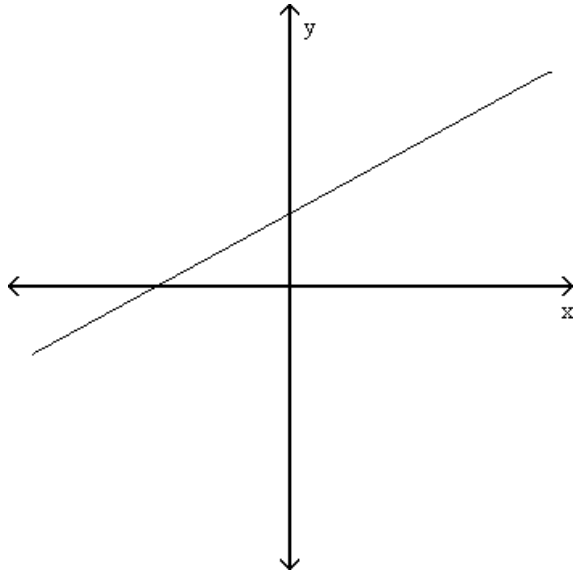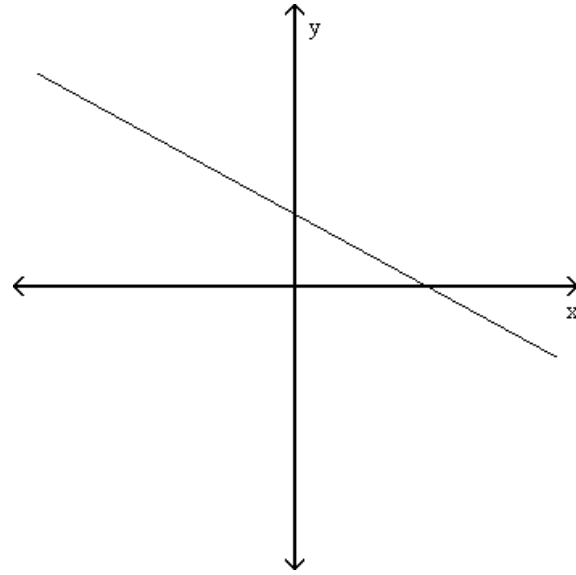   C) (5.7, 0), (0, 5.7)   D) (-5.7, 0), (5.7, 0), (0, -5.7), (0, 5.7)

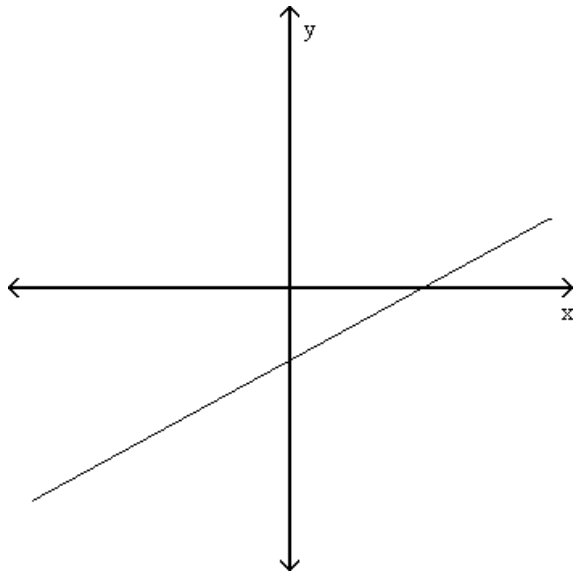12) Which of the following could the graph of $-1.2x + 2.2y = 3.2$?
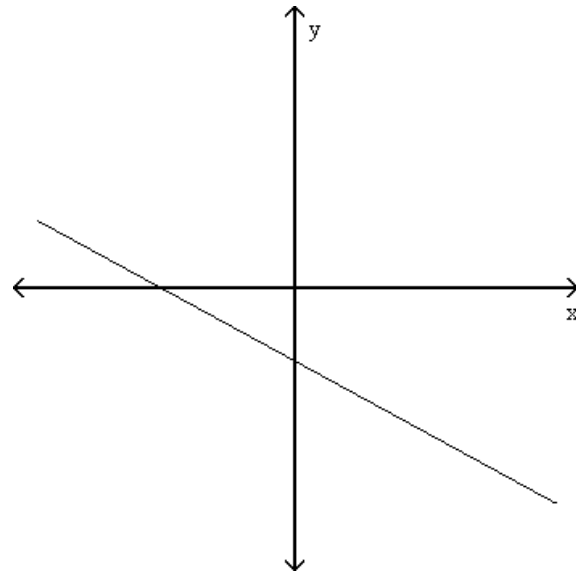
A)

B)

C)
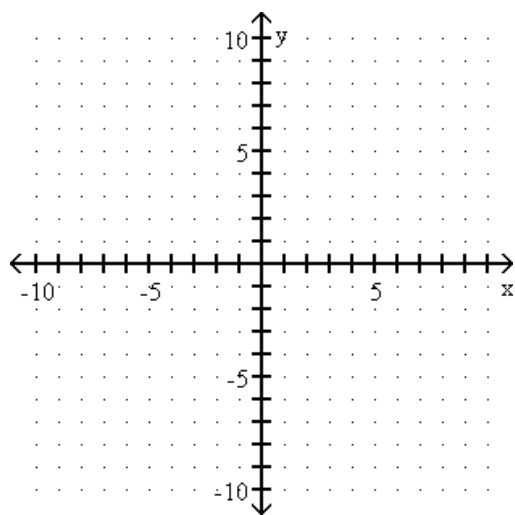

D)

Graph using the x- and y-intercepts.
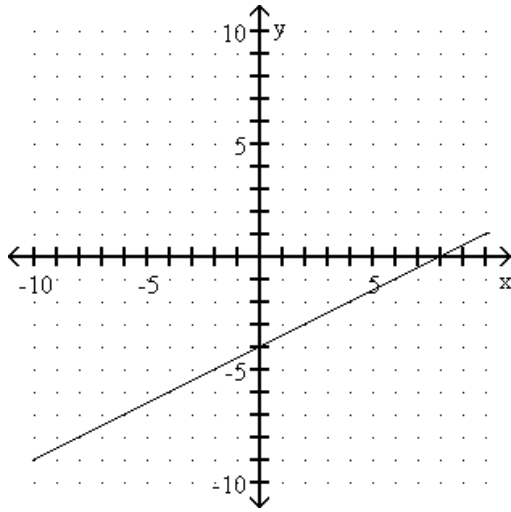
13) $x - 2y = 8$

A)

B)

C)

D)

14) $3x + 4y = 20$

9
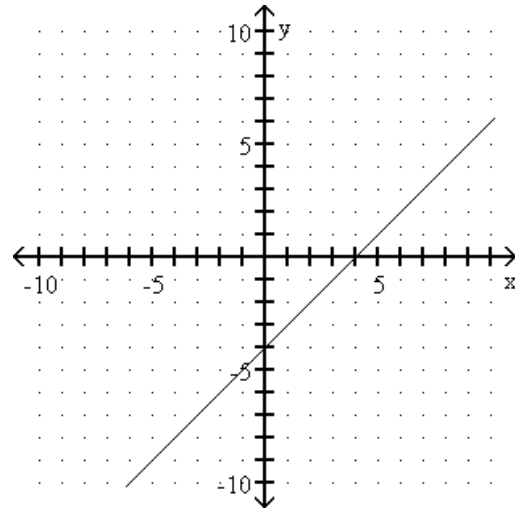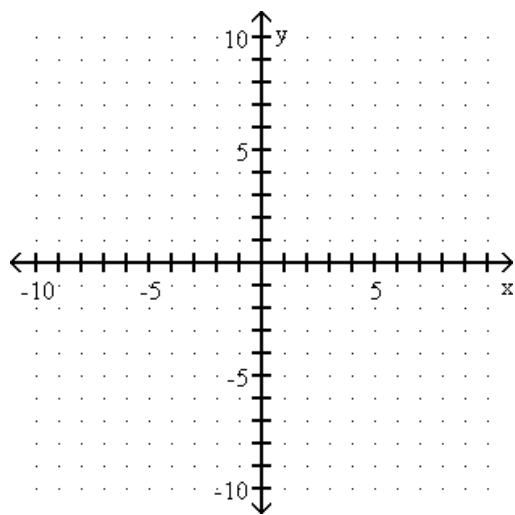
A)

B)

C)

D)

15) $3x - y = 6$ 15) _____

A)

B)

C)

D)

16) $2x + y = 6$

16) _____

A)

B)

C)

D)

17) $x + y = 4$

17) _____

12

A)

B)

C)

D)

18) 2x - 3y = 12

18) _____

13
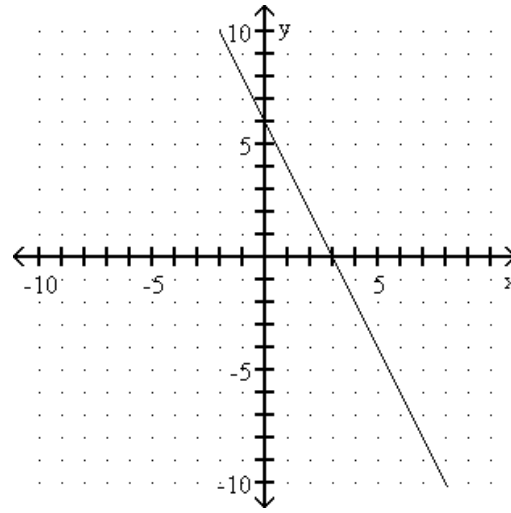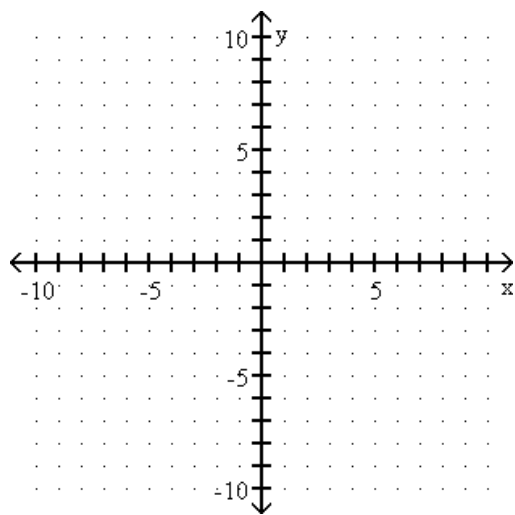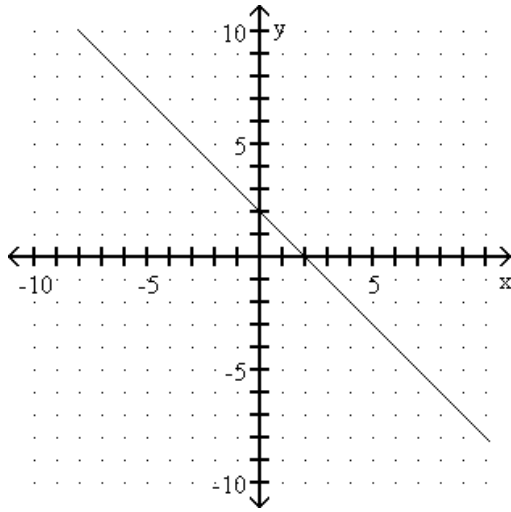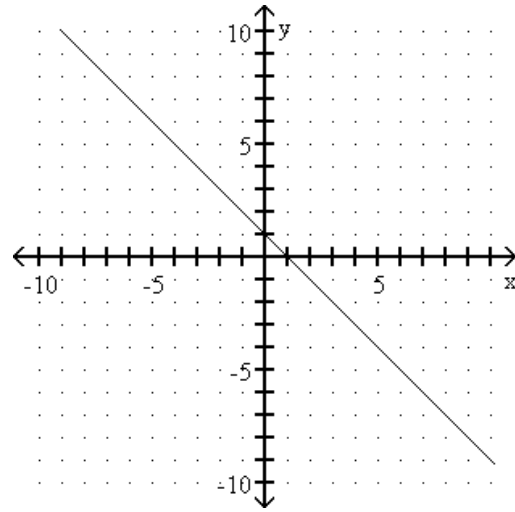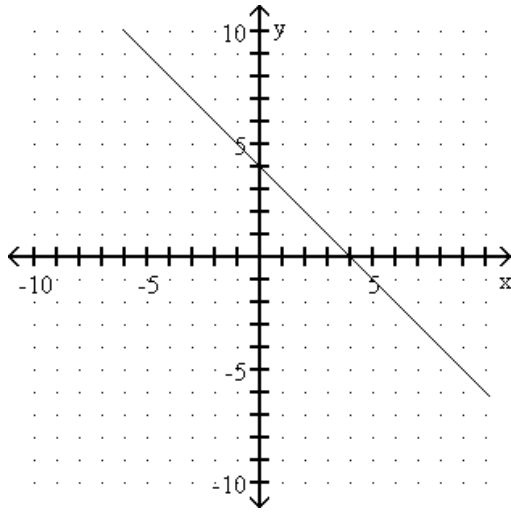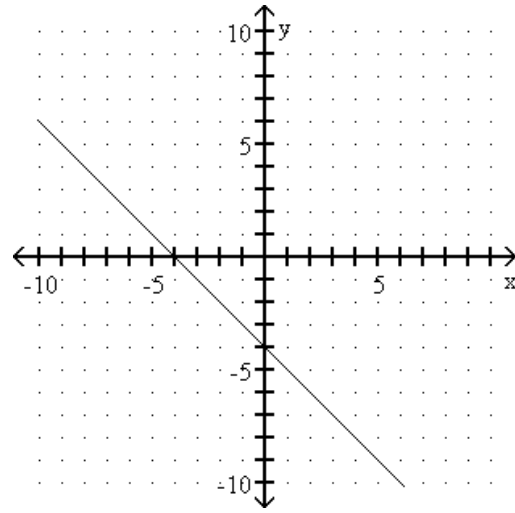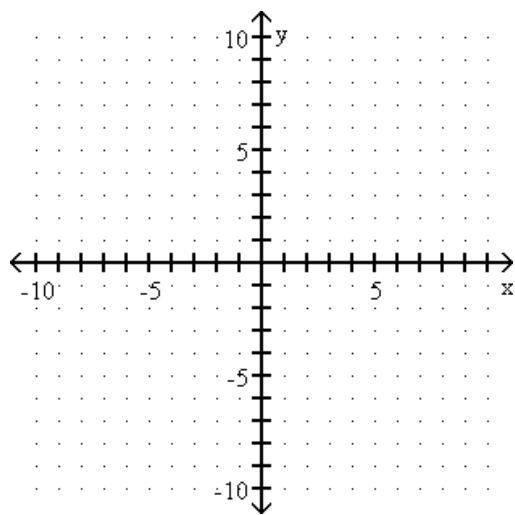
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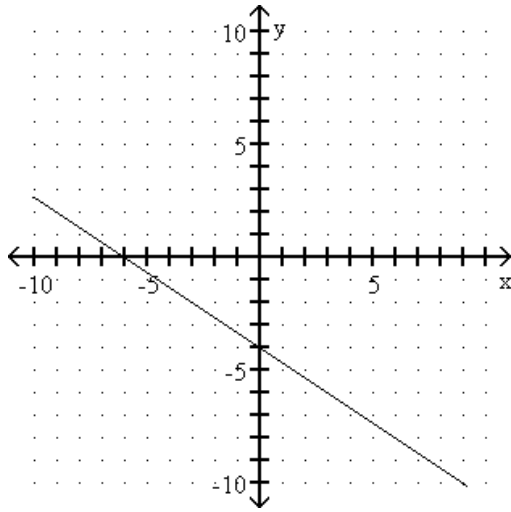
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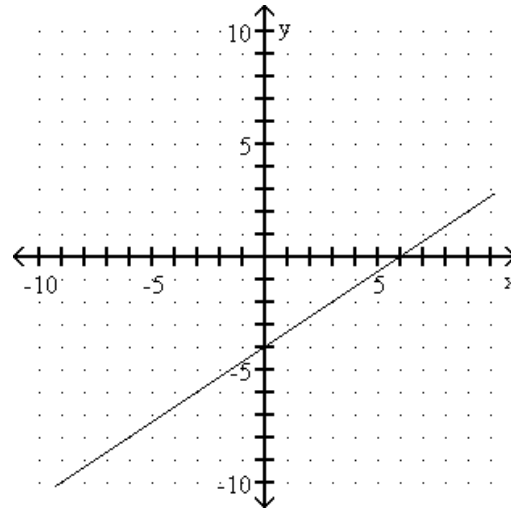
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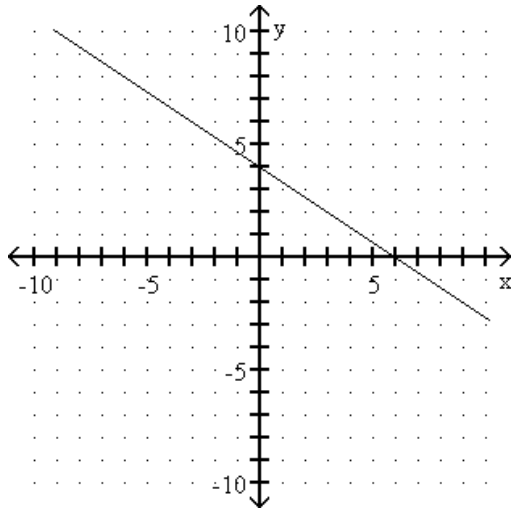
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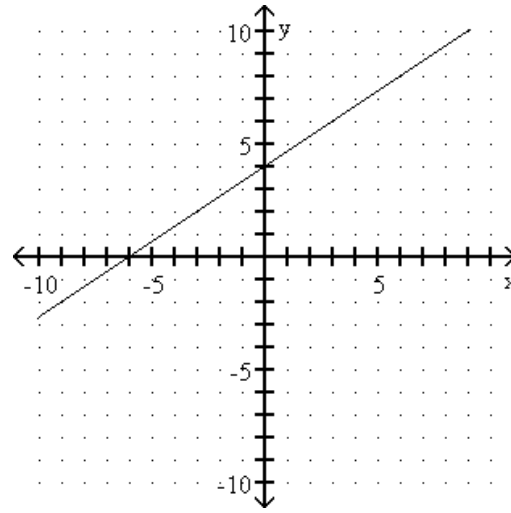
19) 2x − y = 2
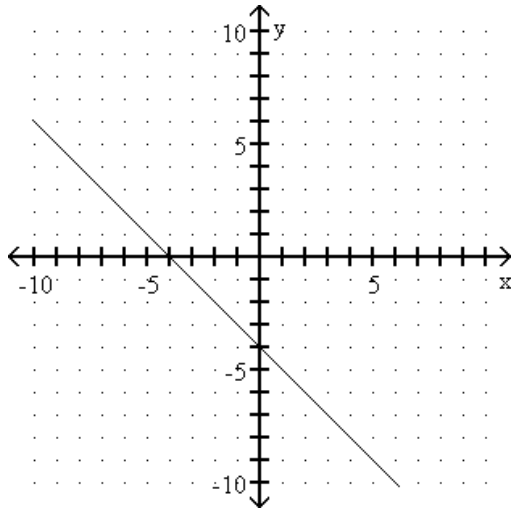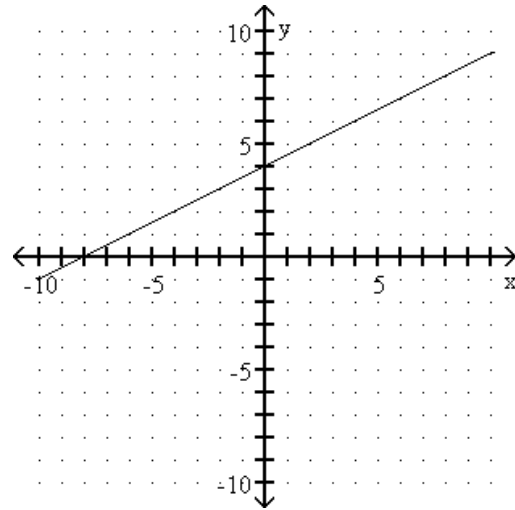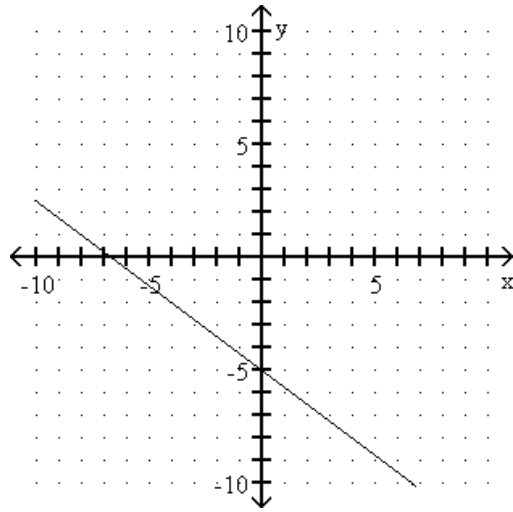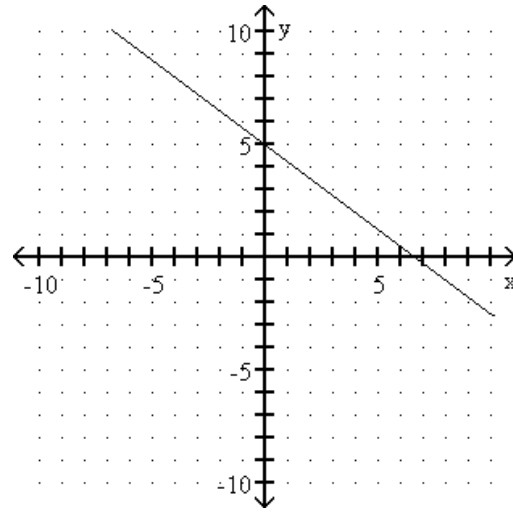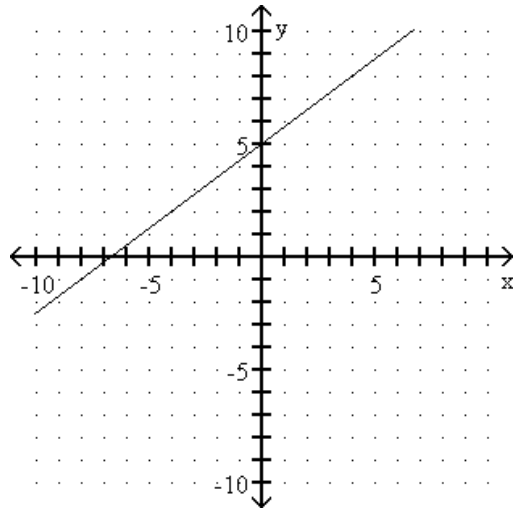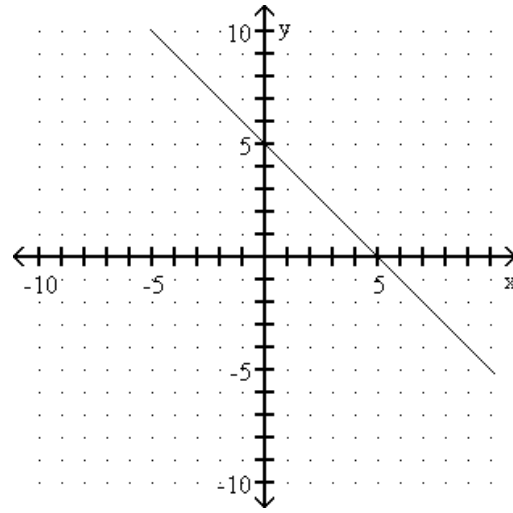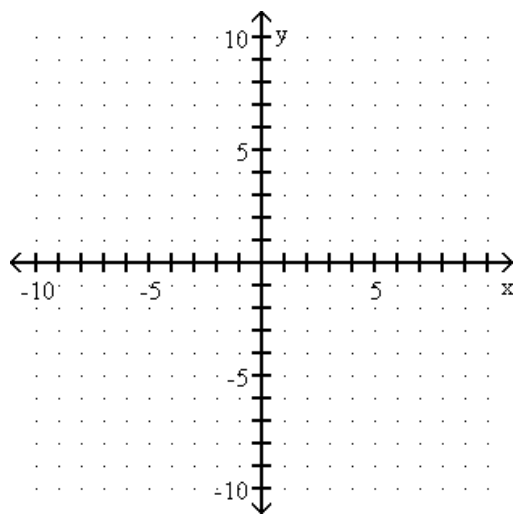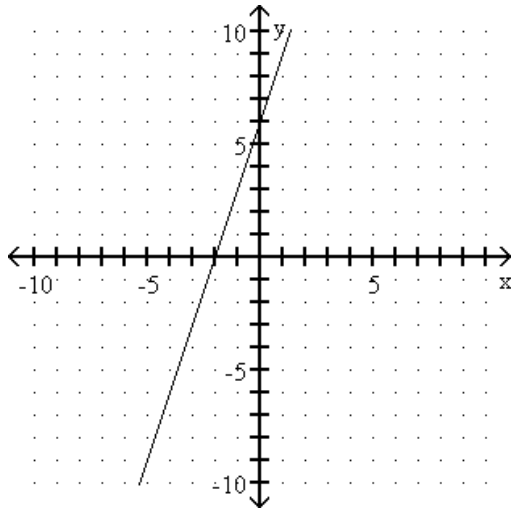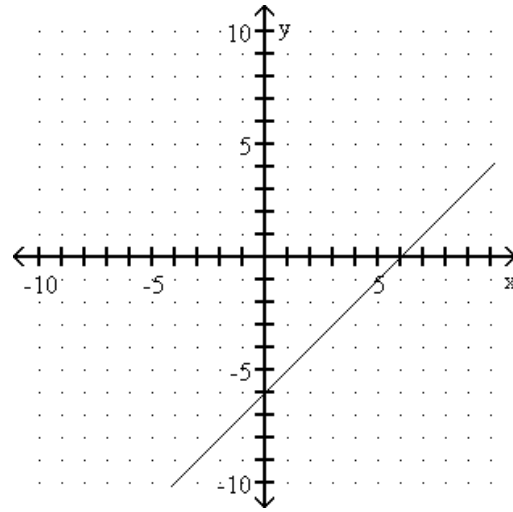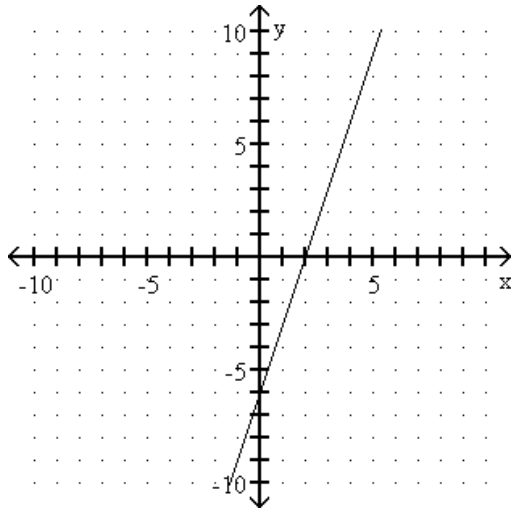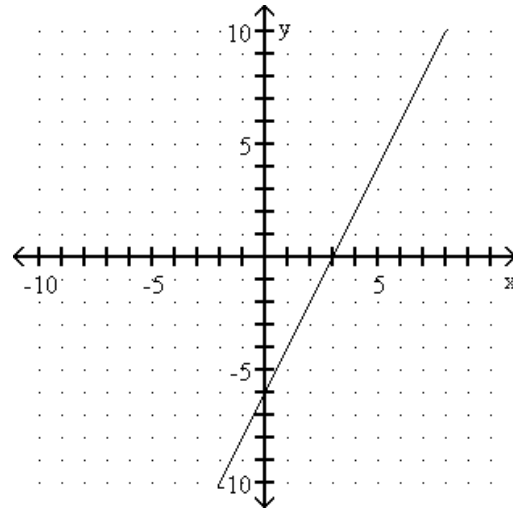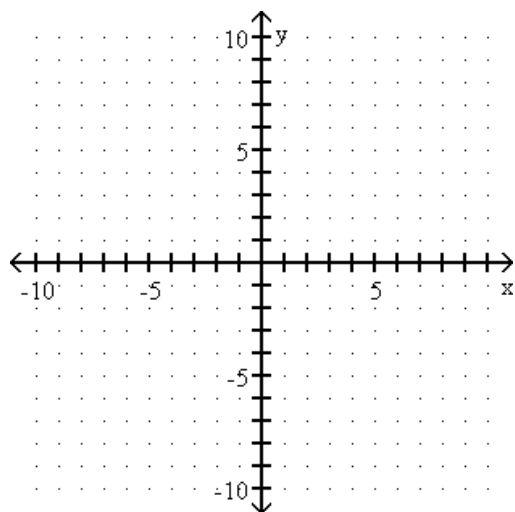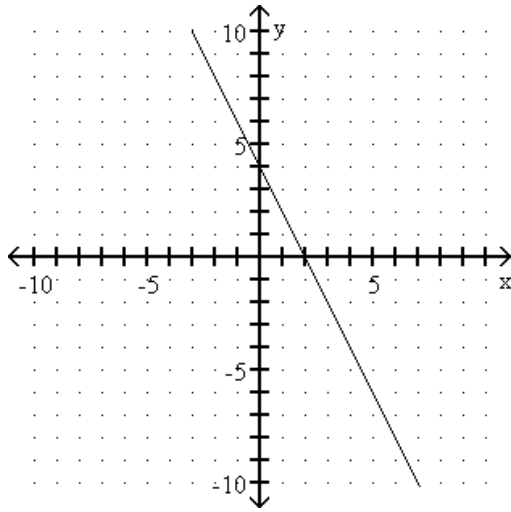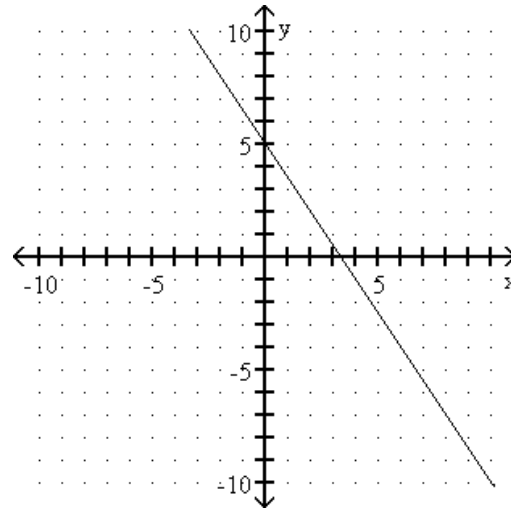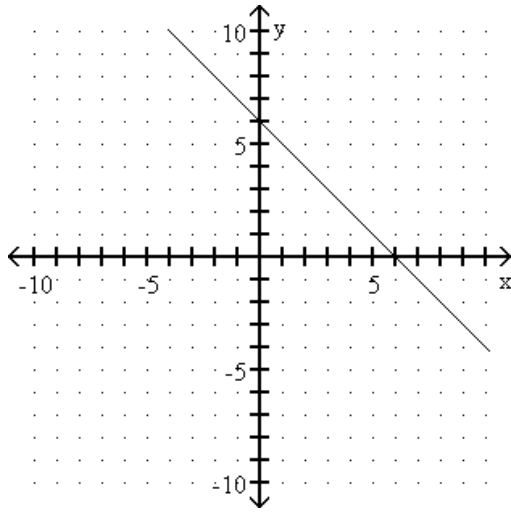
19) _____

A)

B)

C)

D)

20) x − y = 2

15
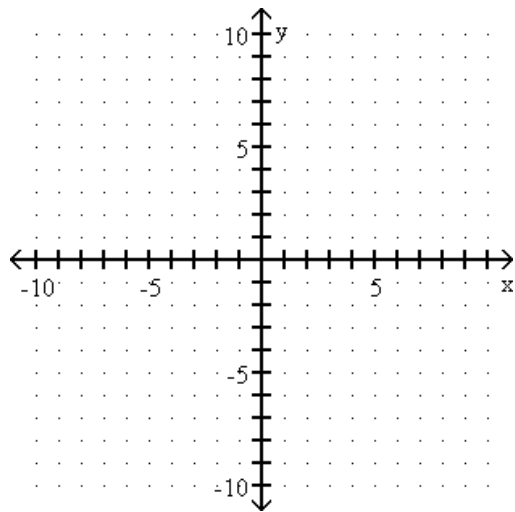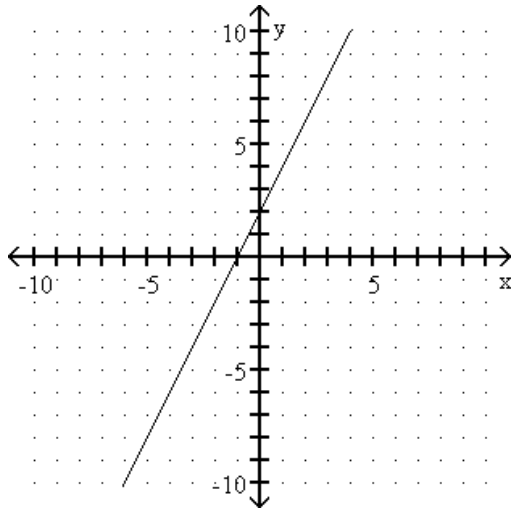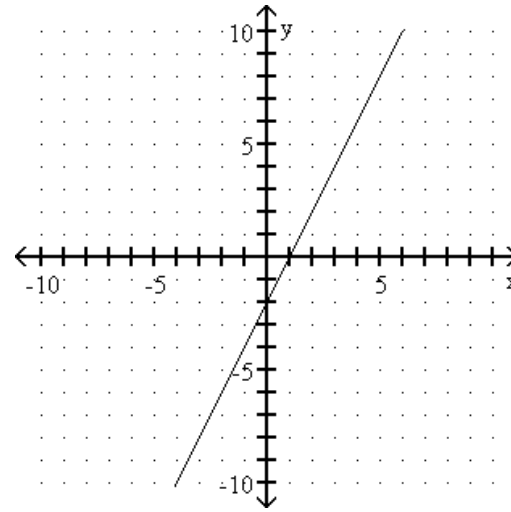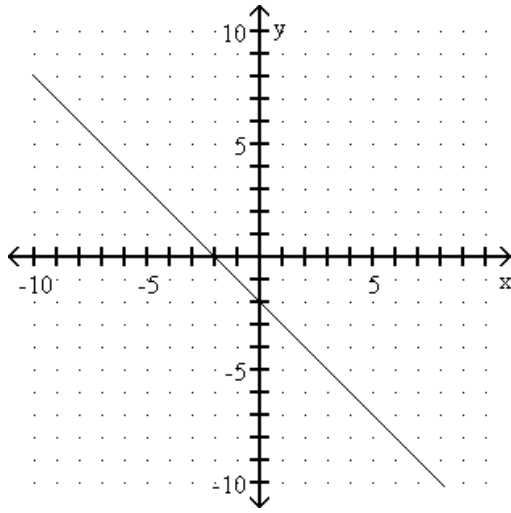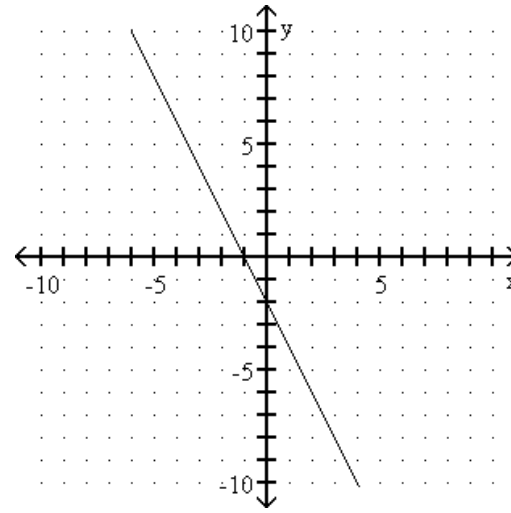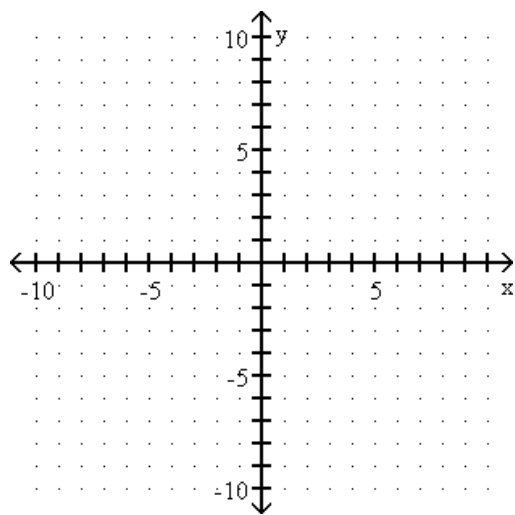
A)
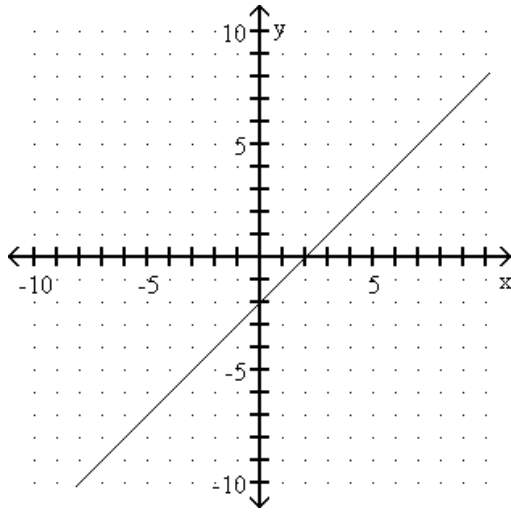
B)
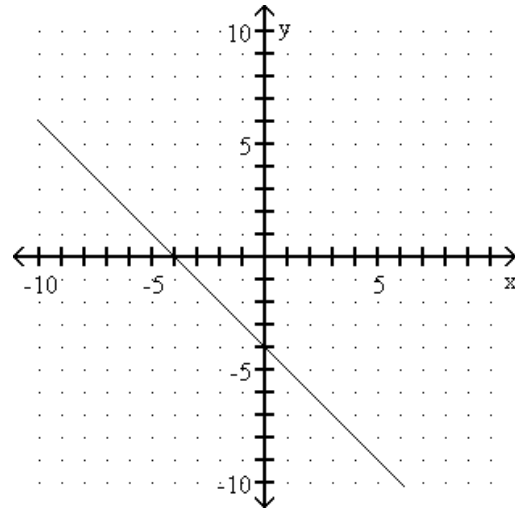
C)
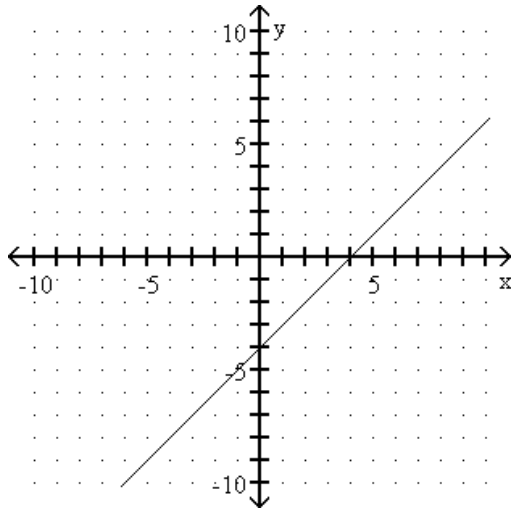
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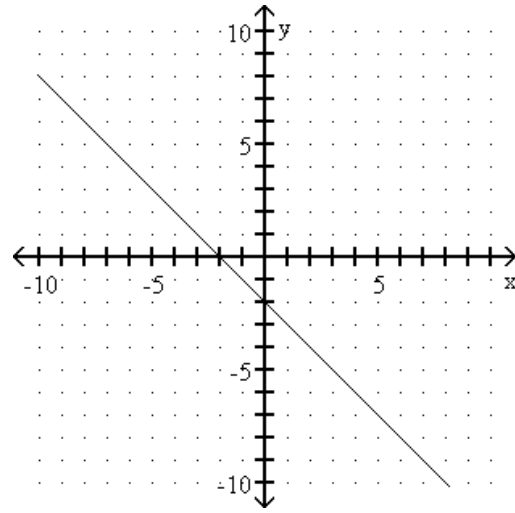
21) $y = -8$

21) _____

A)

B)

C)

D)

22) x = 1

22) _____

17
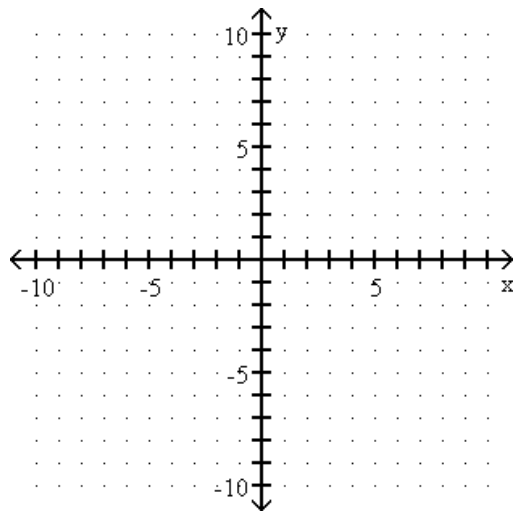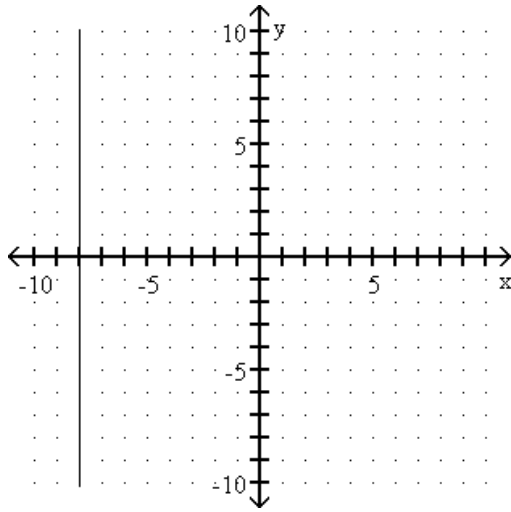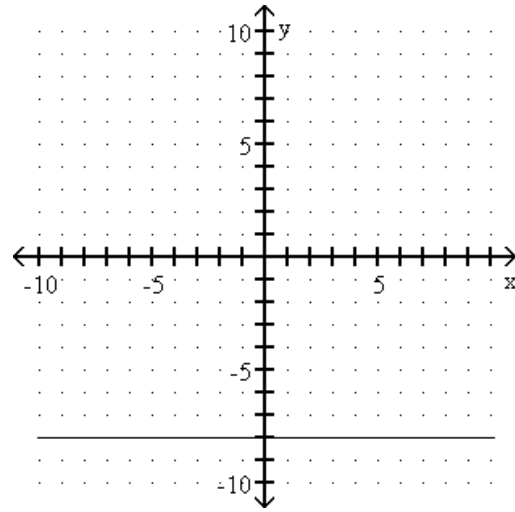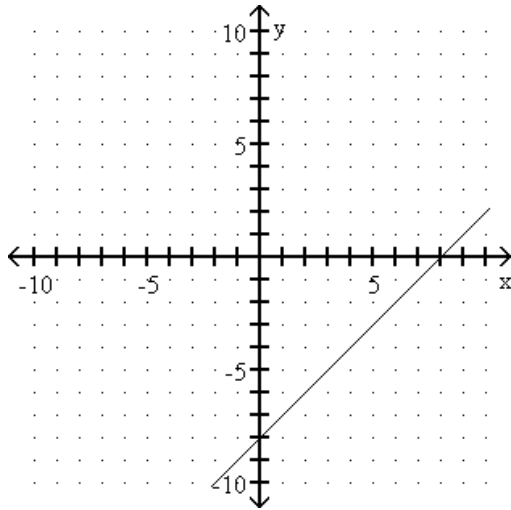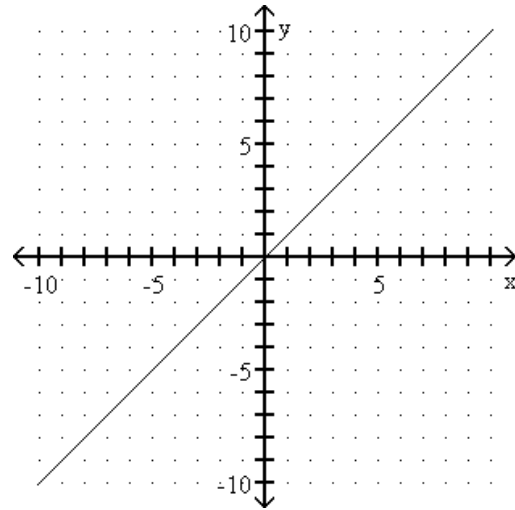
A)
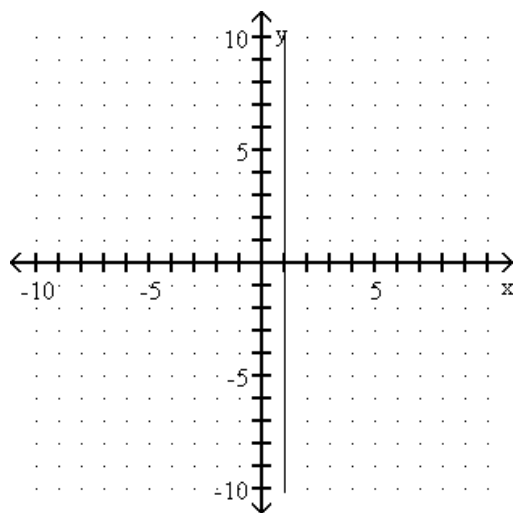
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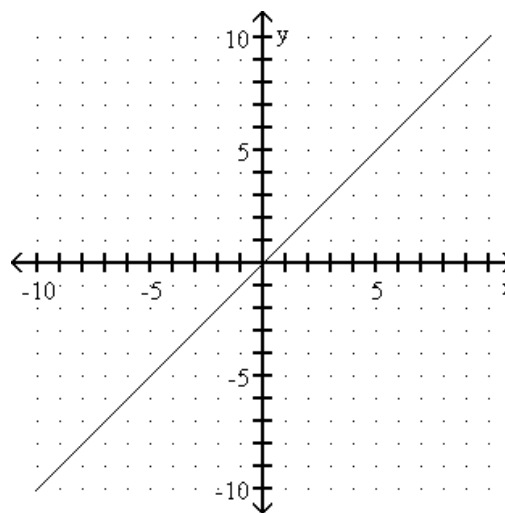
C)
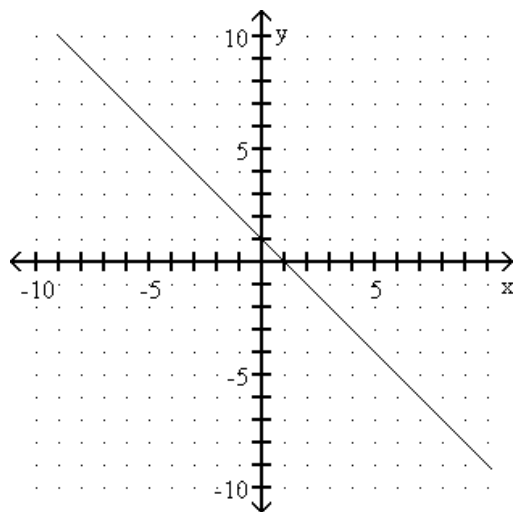
D)
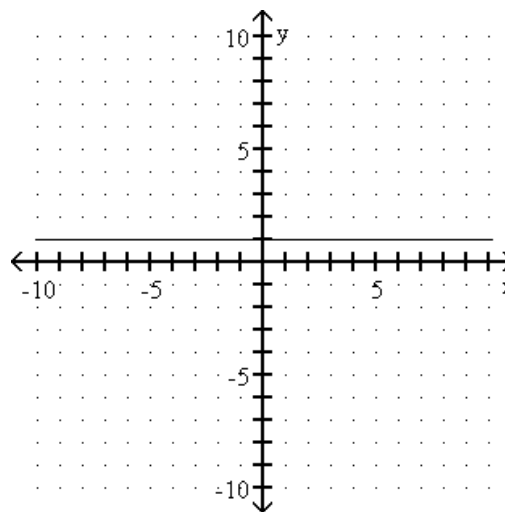
Find the x- and y- intercepts.

23) $4x - 6y = 11$

A) $(7, 0)$, $(0, 17)$

B) $(\frac{11}{4}, 0)$, $(0, \frac{11}{6})$

C) $(\frac{11}{4}, 0)$, $(0, -\frac{11}{6})$

D) $(-\frac{11}{6}, 0)$, $(0, \frac{11}{4})$

23) _____

24) $x - y = -17$

A) $(-17, 0)$, $(0, 17)$

B) $(17, 0)$, $(0, 17)$

C) $(-17, 0)$, $(0, -17)$

D) $(17, 0)$, $(0, -17)$

24) _____

25) $y = 2x$

A) $(0, 0)$, $(0, 2)$

B) $(2, 0)$, $(0, 0)$

C) $(2, 0)$, $(0, 2)$

D) $(0, 0)$, $(0, 0)$

25) _____

26) $x = 2$

A) $(-2, 0)$, no y-intercept

B) $(2, 0)$, no y-intercept

C) No x-intercept, $(0, 2)$

D) No x-intercept, no y-intercept

26) _____

27) $y = \frac{4}{5}x - 24$

A) $(-30, 0)$, $(0, 24)$

B) $(30, 0)$, $(0, -24)$

C) $(24, 0)$, $(0, -24)$

D) $(30, 0)$, $(0, 24)$

27) _____

18

28) $\frac{2}{3}x + y = 2$

28) _____

    A) (0, 0), (0, 2)   B) (3, 0), (1, 2)   C) (3, 0), (0, 2)   D) (2, 0), (0, 3)

29) $y = -6$

29) _____

    A) No x-intercept, (0, -6)   B) No x-intercept, (0, 6)
    C) (-6, 0), no y-intercept   D) No x-intercept, no y-intercept

30) $6x + 4y = 24$

30) _____

    A) (-4, 0), (0, -6)   B) (4, 0), (0, -6)   C) (6, 0), (0, 4)   D) (4, 0), (0, 6)

31) $-x + \frac{5}{8}y = -5$

31) _____

    A) (8, 0), (0, -5)   B) (-5, 0), (0, -8)   C) (5, 0.5), (0, -8)   D) (5, 0), (0, -8)

Find the x- and y-intercepts of the graph.

32)

32) _____
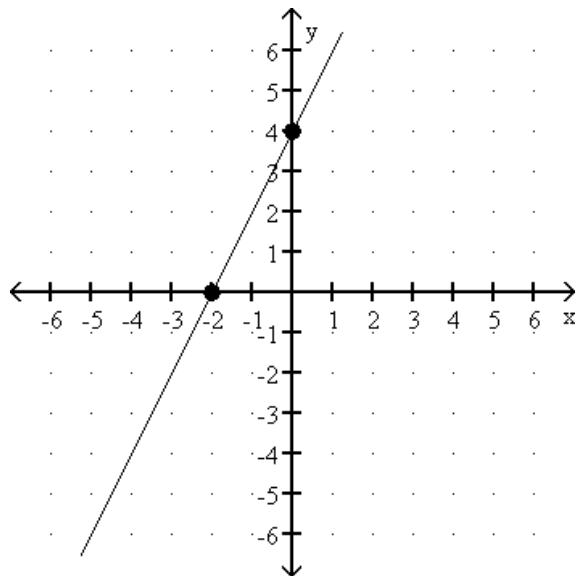
    A) (2, 0), (0, 4)   B) (-2, 0), (0, -4)   C) (4, 0), (0, -2)   D) (-2, 0), (0, 4)

33)

33) _____
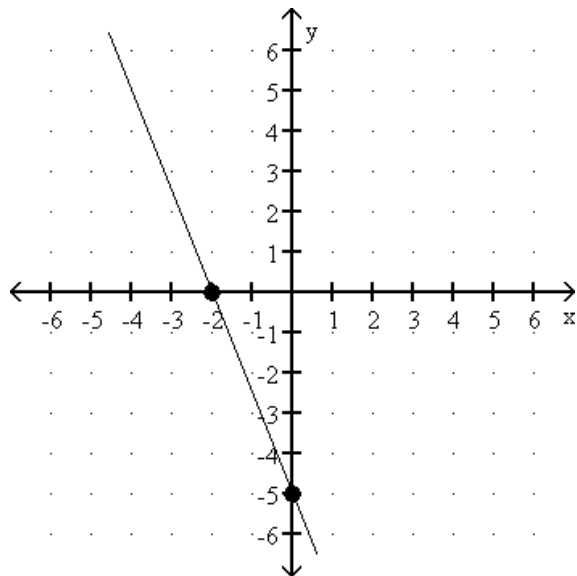
    A) (2, 0), (0, -5)   B) (-2, 0), (0, -5)   C) (-2, 0), (0, 5)   D) (-5, 0), (0, -2)

19

34)
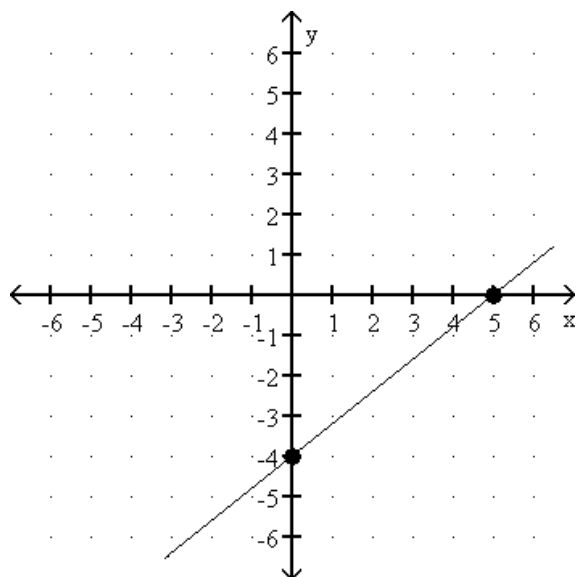
A) (5, 0), (0, -4)   B) (-5, 0), (0, -4)   C) (5, 0), (0, 4)   D) (-4, 0), (0, 5)

35)
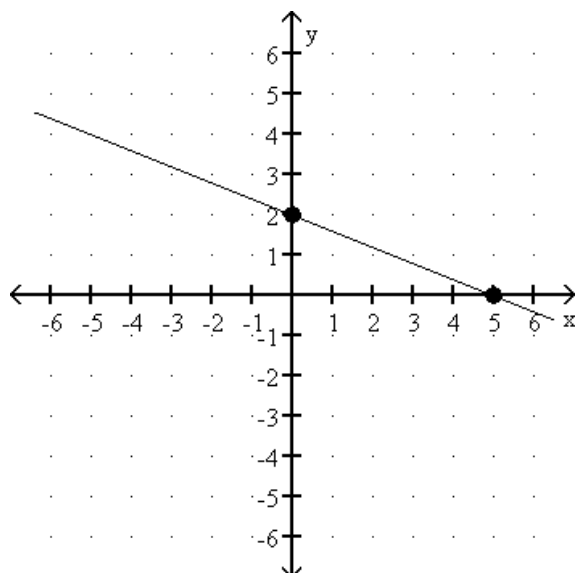
A) (-5, 0), (0, 2)   B) (2, 0), (0, 5)   C) (5, 0), (0, -2)   D) (5, 0), (0, 2)

36)
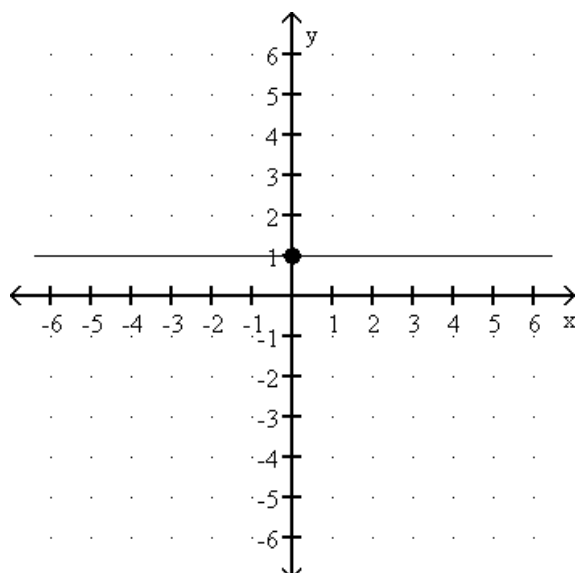
A) no x-intercept, (0, -1)   B) (-1, 0), no y-intercept
C) no x-intercept, (0, 1)   D) (1, 0), no y-intercept

37)
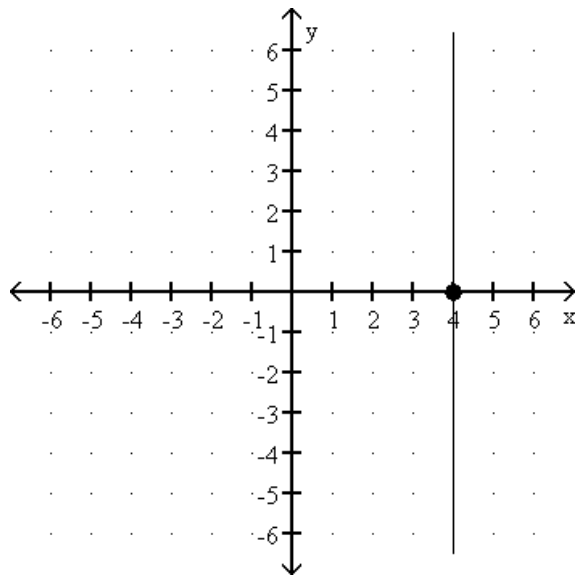
A) no x-intercept, (0, 4) B) no x-intercept, (0, -4)
C) (4, 0), no y-intercept D) (-4, 0), no y-intercept

Provide an appropriate response.

38) What is the relationship between the slopes of two parallel lines?   38) _____
A) One slope is the reciprocal of the other.
B) One slope is the negative of the other.
C) They are equal.
D) There is no general relationship, because the y-intercepts can be different.

39) What is the equation of a vertical line through (-2, 5)?   39) _____
A) x = 5   B) y = 5   C) y = -2   D) x = -2

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

40) y = x   40) _____
y = -x
y = -5x
Graph the set of equations on the same grid. Compare the slopes, y-intercepts, and
their effects on the graphs.

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

Determine the slope and the y-intercept. Then graph the equation.
41) 3x - 5y = 29   41) _____

21
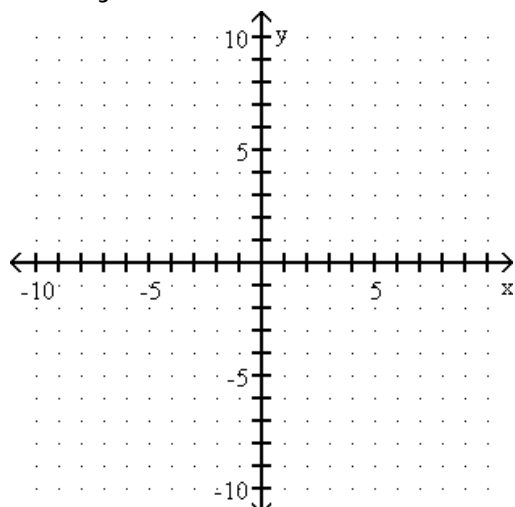
A) $m = \dfrac{5}{3}$; y-intercept: $\left(0, -\dfrac{19}{5}\right)$
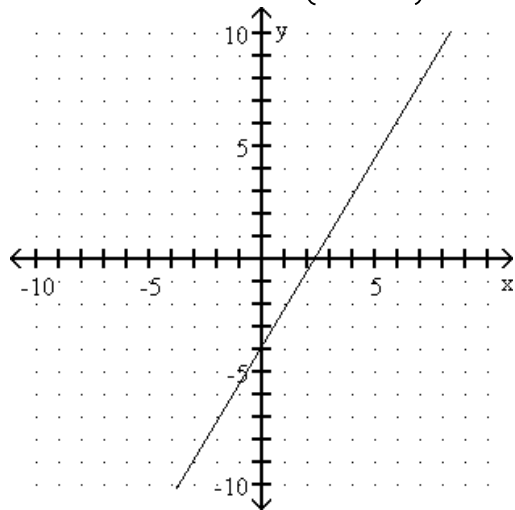
B) $m = -\dfrac{3}{5}$; y-intercept: $\left(0, -\dfrac{29}{5}\right)$
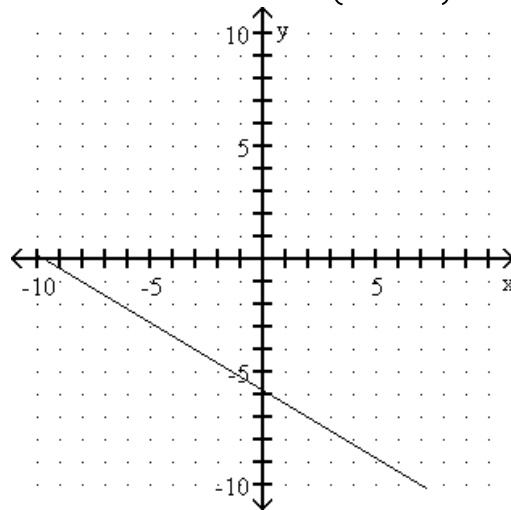
C) $m = -\dfrac{3}{5}$; y-intercept: $\left(0, -\dfrac{19}{5}\right)$
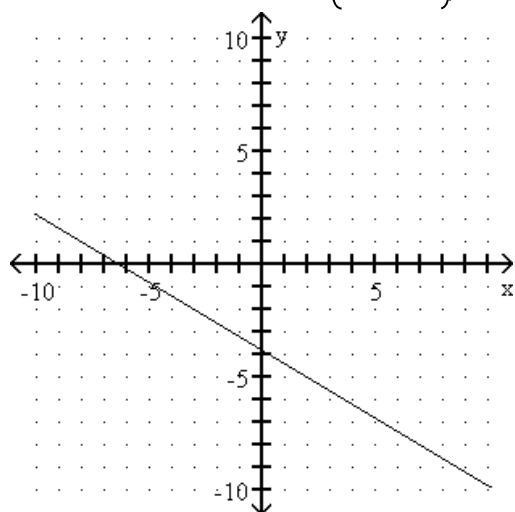
D) $m = \dfrac{3}{5}$; y-intercept: $\left(0, -\dfrac{29}{5}\right)$
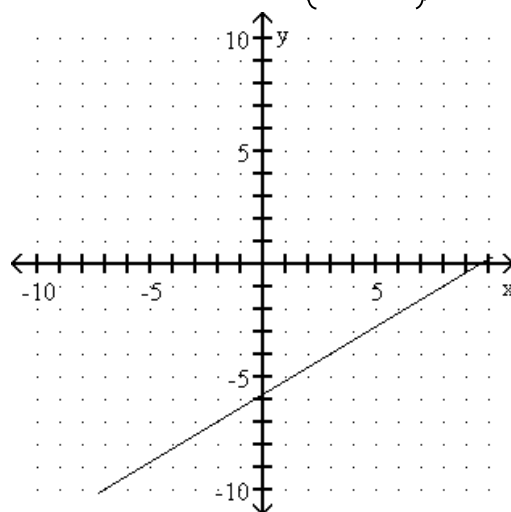
42) $4x - 5y = -36$
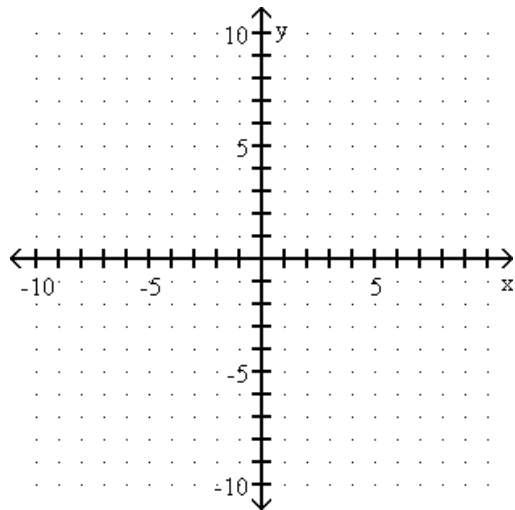
42) _____

A) $m = -\dfrac{5}{4}$; y-intercept: $\left(0, \dfrac{26}{5}\right)$
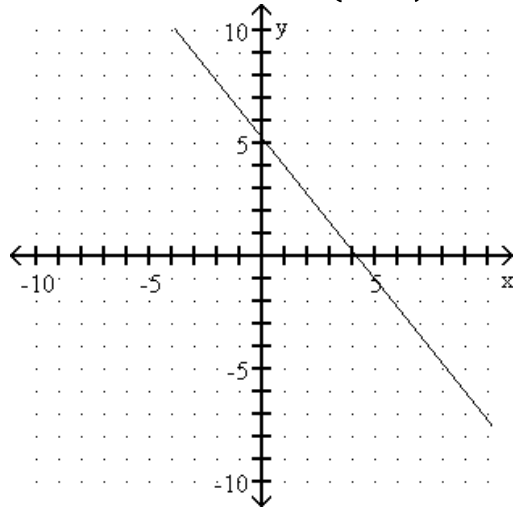
B) $m = -\dfrac{4}{5}$; y-intercept: $\left(0, \dfrac{36}{5}\right)$
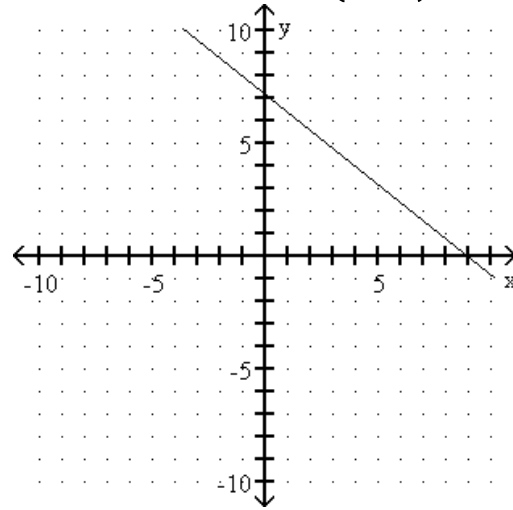
C) $m = \dfrac{4}{5}$; y-intercept: $\left(0, \dfrac{36}{5}\right)$
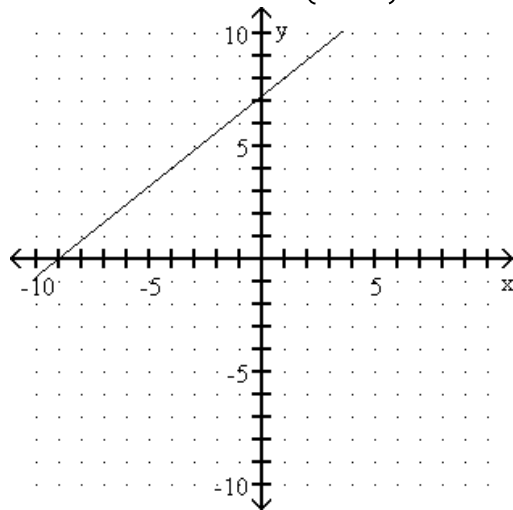
D) $m = -\dfrac{4}{5}$; y-intercept: $\left(0, \dfrac{26}{5}\right)$
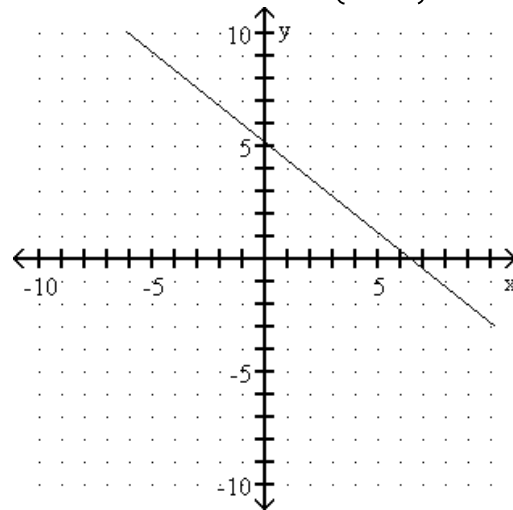
43) $x + y = -3$
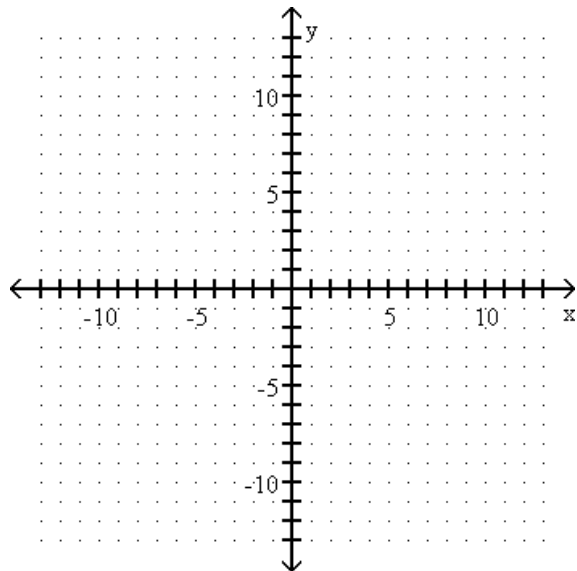
43) _____

A) m = -1; y-intercept: (0, -3)
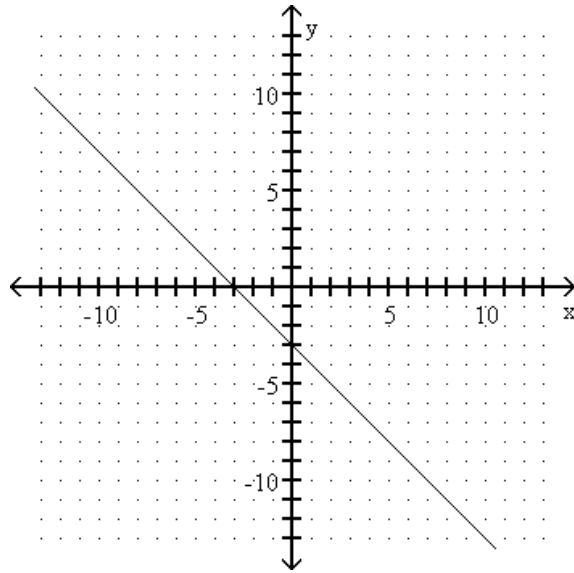
B) m = 1; y-intercept: (0, -3)
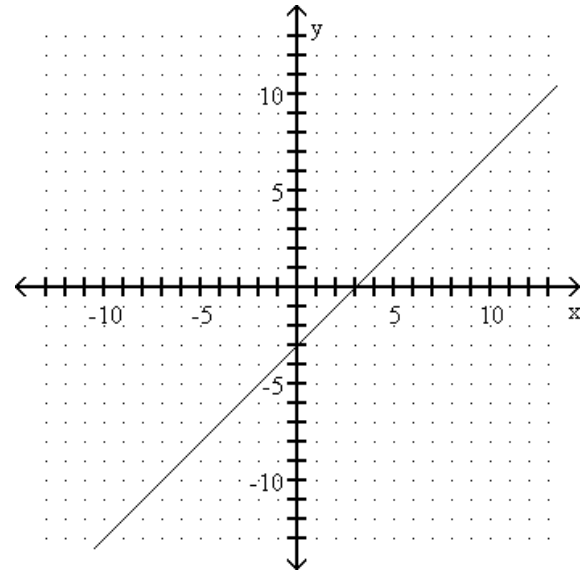
C) m = 1; y-intercept: (0, 3)
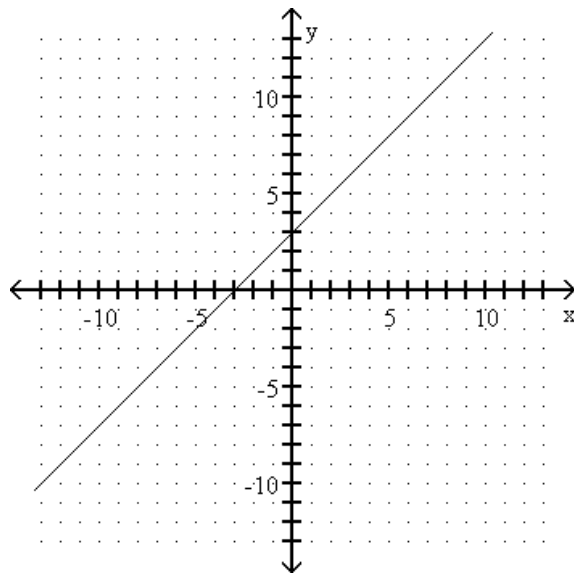
D) m = -1; y-intercept: (0, 3)
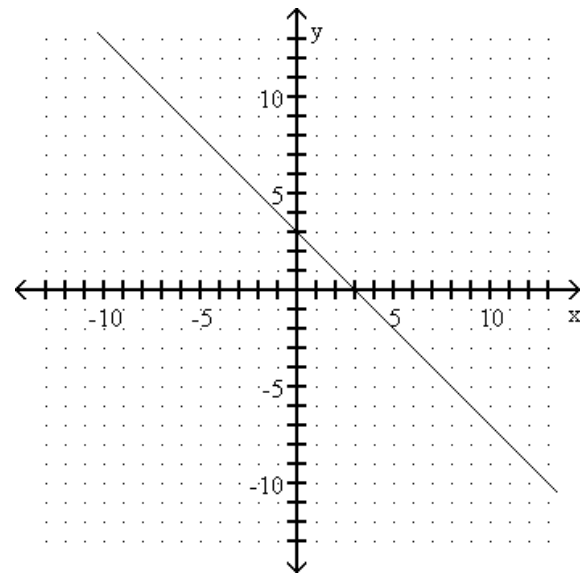
44) $y = -4x + 5$

44) _____
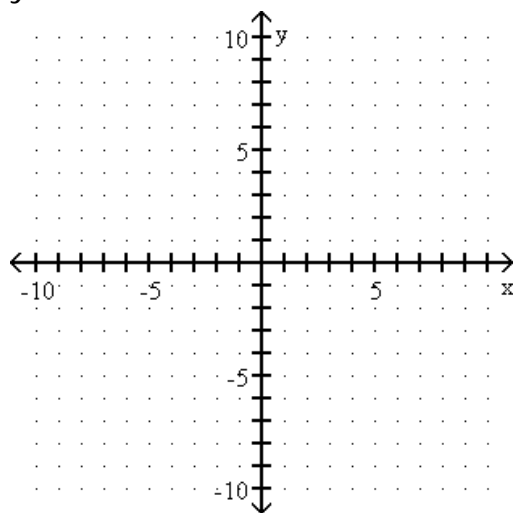
A) m = 5, y-intercept: (0, -4)
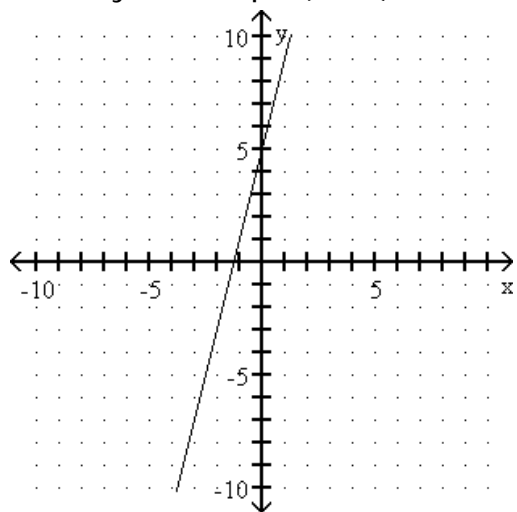
B) m = -4, y-intercept: (0, 5)
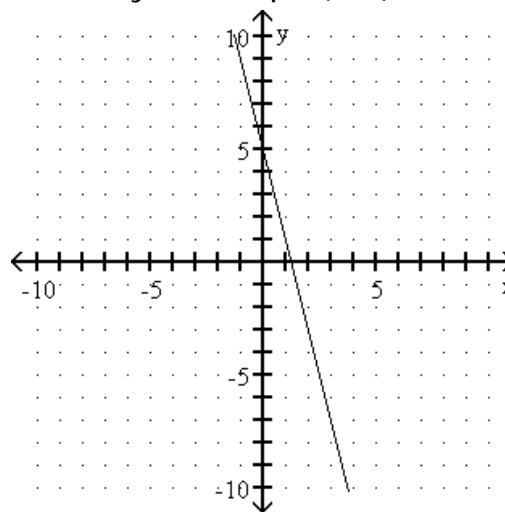
C) m = 5, y-intercept: (0, -4)
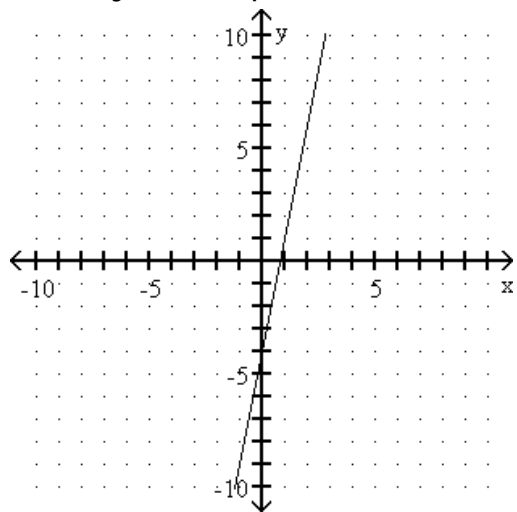
D) m = -4, y-intercept: (0, 5)
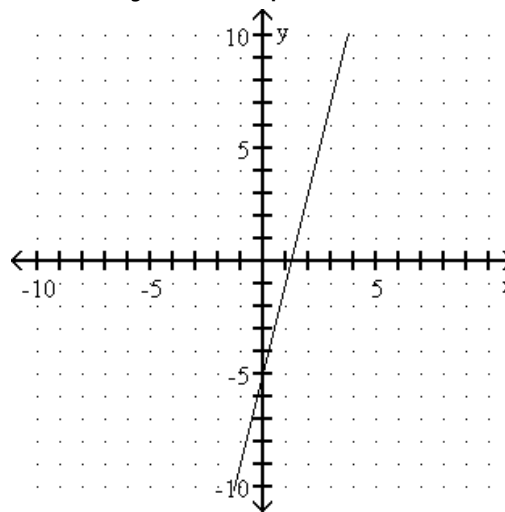
45) $3x + 4y = 25$

45) _____
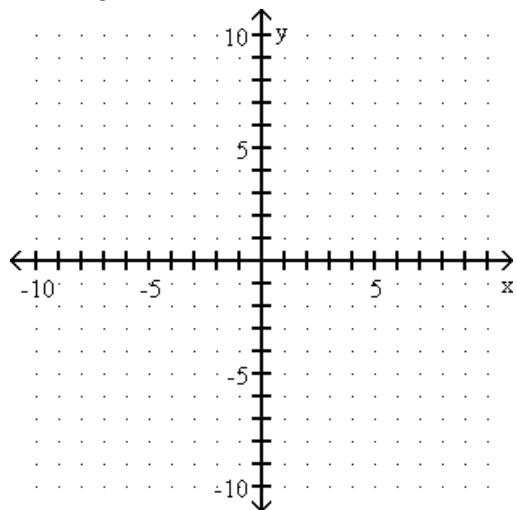
A) $m = \frac{3}{4}$; y-intercept: $\left(0, \frac{25}{4}\right)$
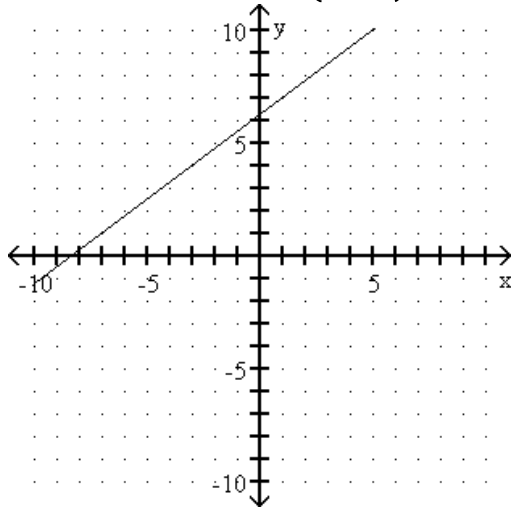
B) $m = \frac{3}{4}$; y-intercept: $\left(0, \frac{17}{4}\right)$
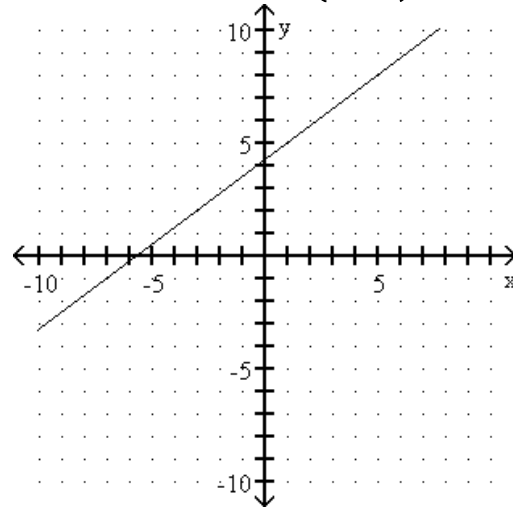
C) $m = \frac{4}{3}$; y-intercept: $\left(0, \frac{17}{4}\right)$
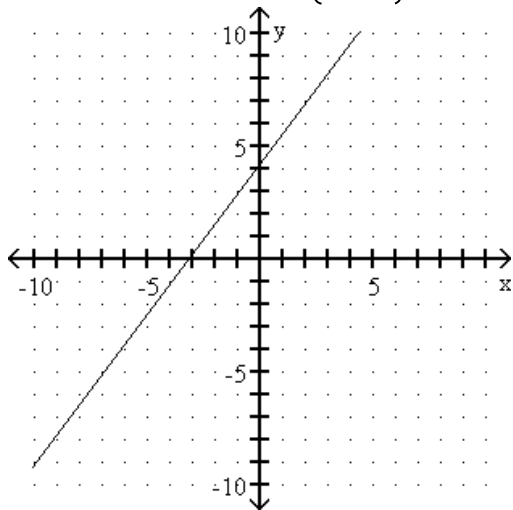
D) $m = -\frac{3}{4}$; y-intercept: $\left(0, \frac{25}{4}\right)$
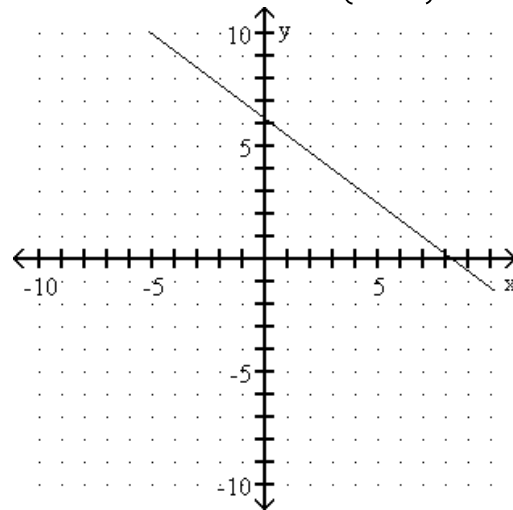
Find the slope of the line.

46)

46) _____
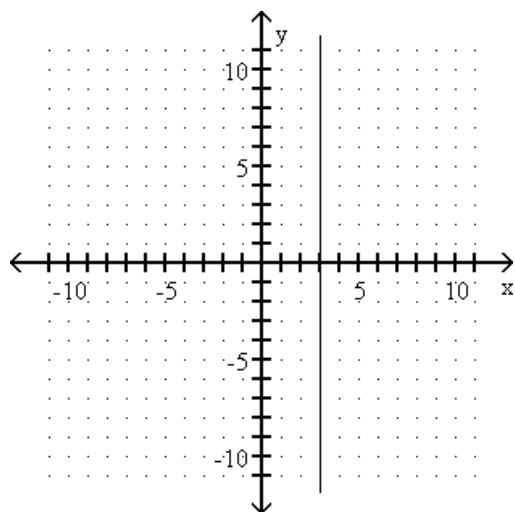
A) 0

B) 3

C) Undefined

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

47)

A) -1   B) 6   C) 1   D) -6

48)
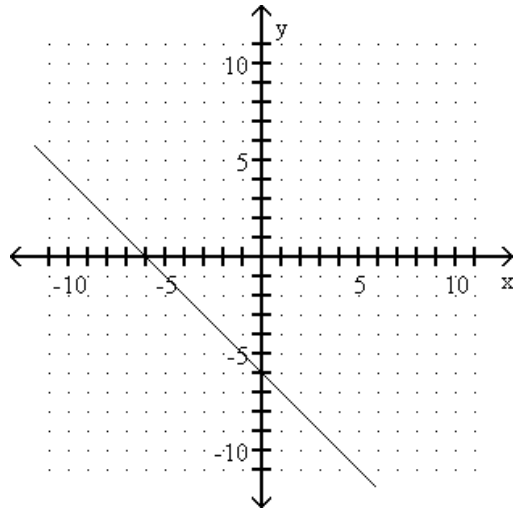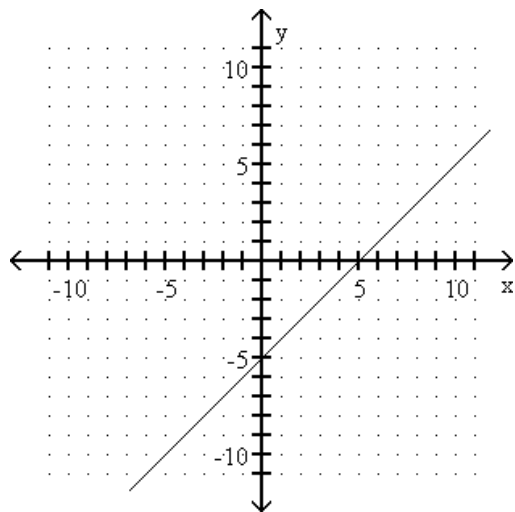
A) -9   B) 1   C) -1   D) -5

49)
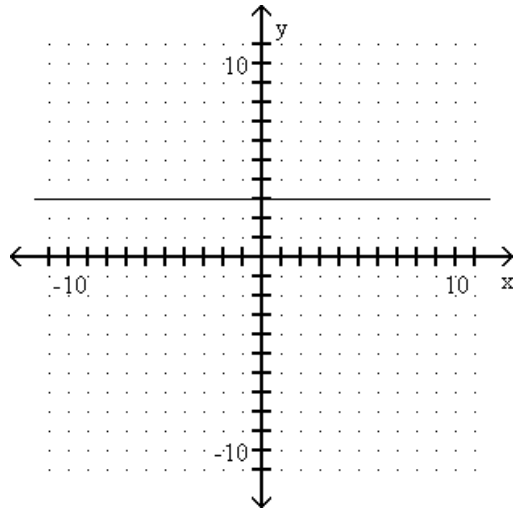
A) 0   B) $\frac{1}{2}$ C) 3   D) Undefined

50)

A) $-\dfrac{1}{2}$ B) $\dfrac{1}{2}$ C) 2 D) -2

51)
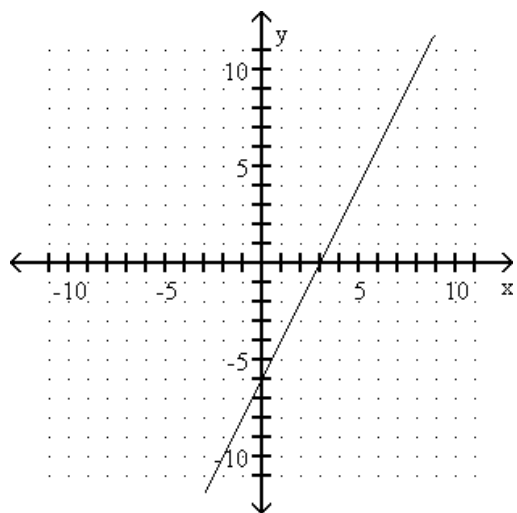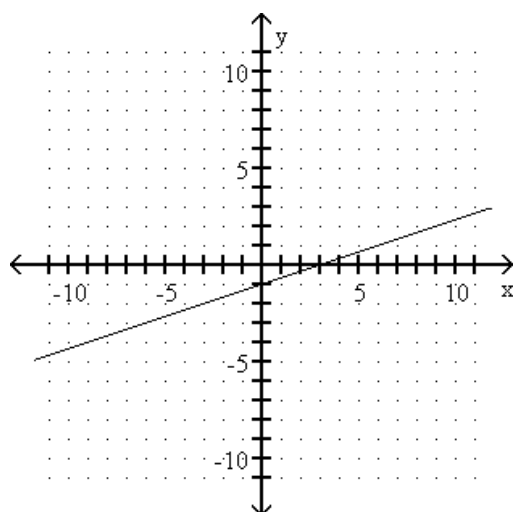
A) -3 B) $\dfrac{1}{3}$ C) 3 D) $-\dfrac{1}{3}$

Find the slope of the line through the given points.

52) (-3, -5), (-4, -2)

A) - 3 B) 3 C) $\dfrac{3}{10}$ D) $-\dfrac{1}{3}$

53) (3, 2), (-1, 2)

A) 3 B) 0 C) 1 D) Undefined

54) (-3, -3), (2, 4)

A) $\dfrac{5}{7}$ B) $\dfrac{7}{5}$ C) $-\dfrac{7}{5}$ D) $\dfrac{7}{10}$

55) (7, -5), (-2, -7)

A) $\dfrac{5}{13}$ B) 0 C) $\dfrac{13}{5}$ D) $\dfrac{2}{9}$

56) (8, -2), (8, -8) 56) _____

    A) 0   B) Undefined   C) $\dfrac{6}{11}$ D) -6

Find the y-intercept.

57)   57) _____

    A) (0, 8)   B) (0, -4)   C) (0, 4)   D) (0, -8)

58)   58) _____
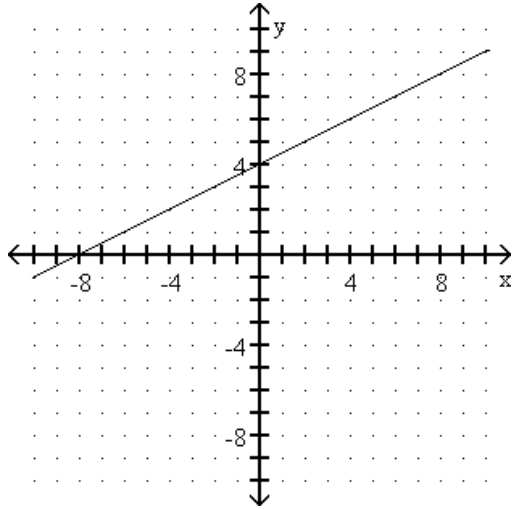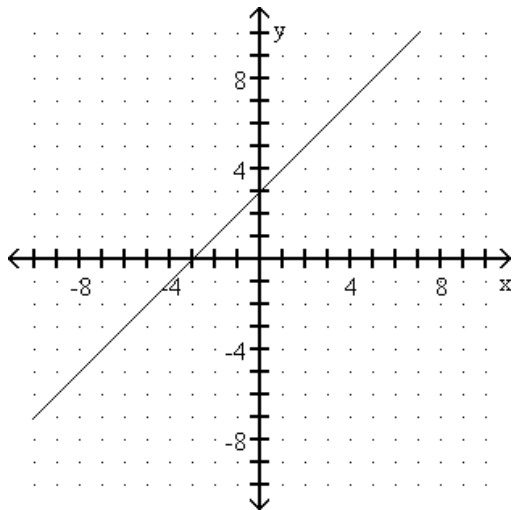
    A) (3, 0)   B) (-3, 0)   C) (0, 3)   D) (0, -3)

59)   59) _____

    A) (0, 4)   B) (4, 0)   C) (0, 0)   D) No y-intercept

60)

A) No y-intercept   B) (0, 0)   C) (0, -4)   D) (0, 4)

Match the equation with the appropriate graph.

61) y = 5x - 4

A)

B)

C)

D)

62) x = -y

A)

B)

C)

D)
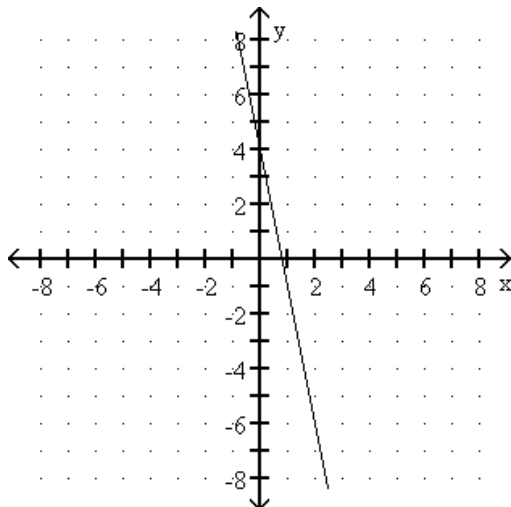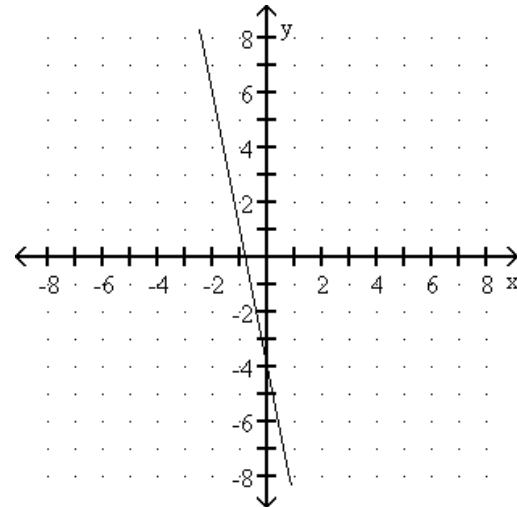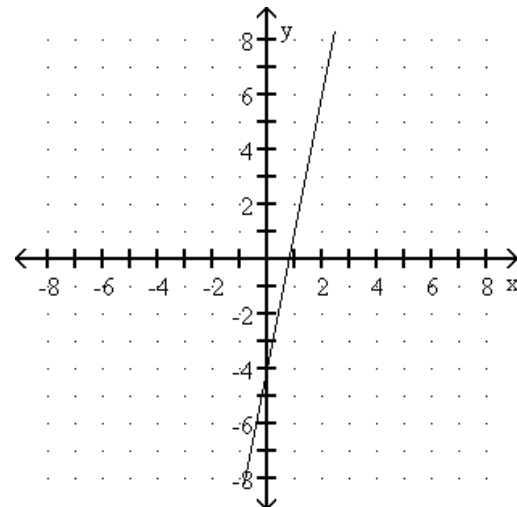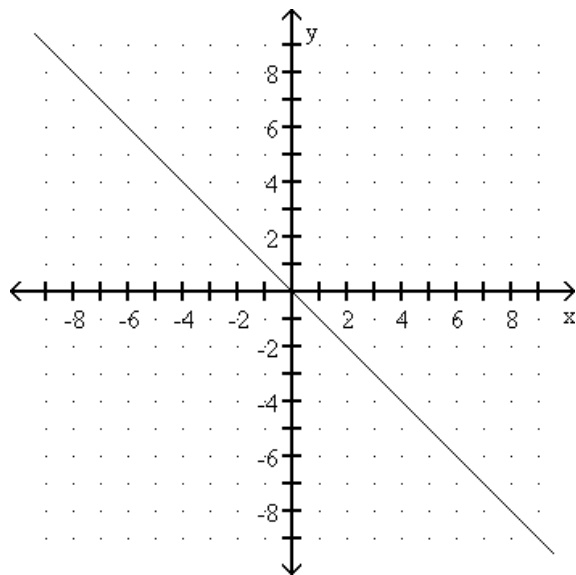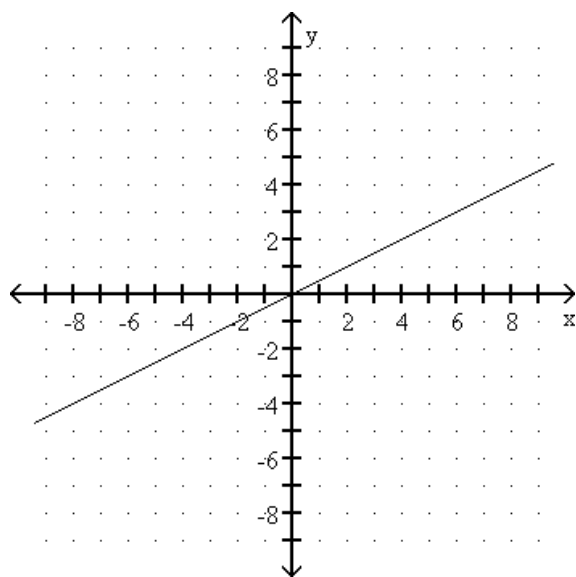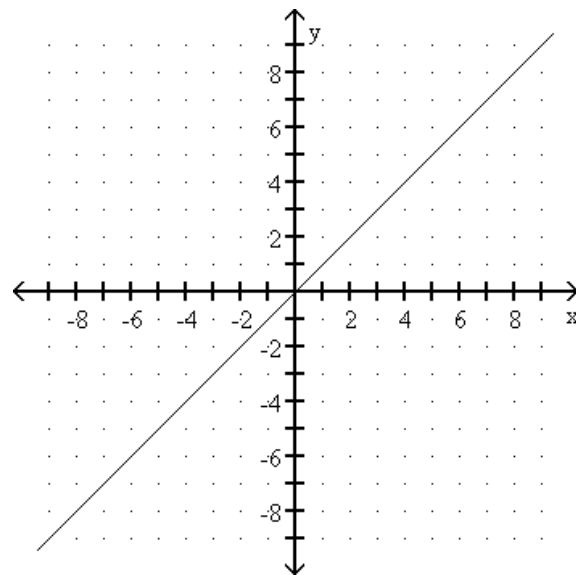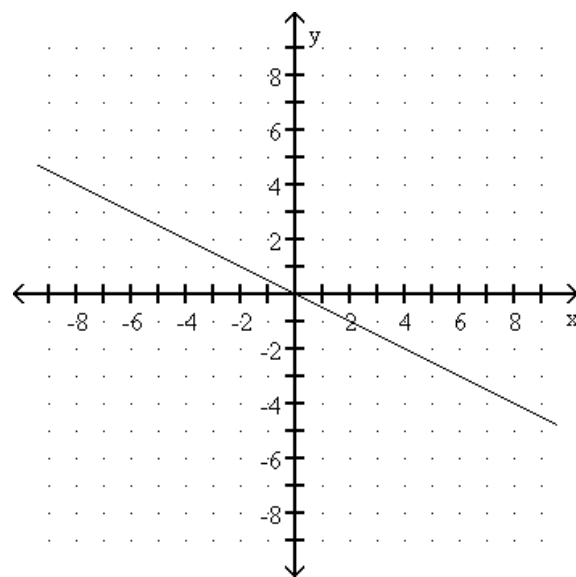
63) 2x - 4y = -9

A)
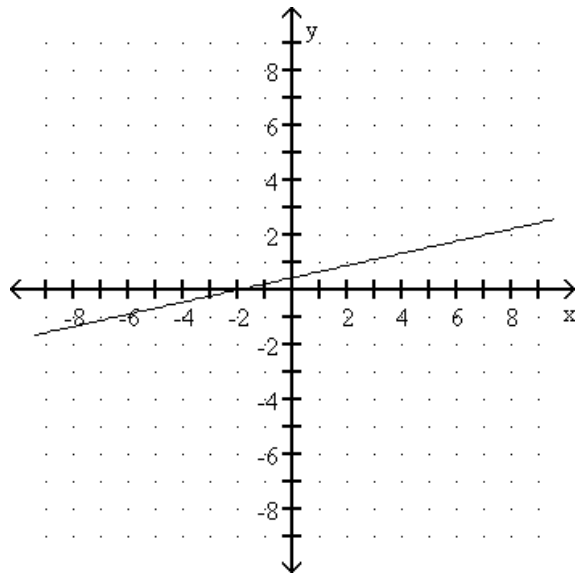
B)
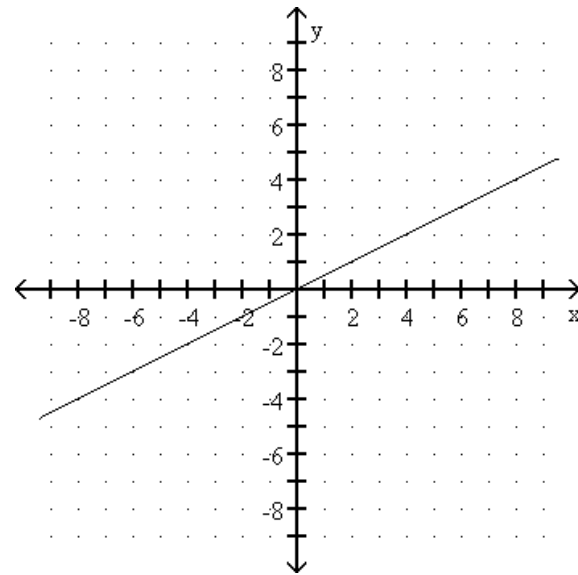
C)
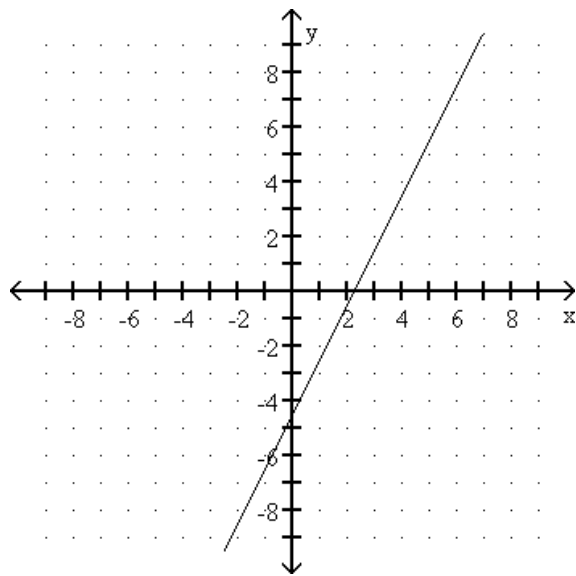
D)
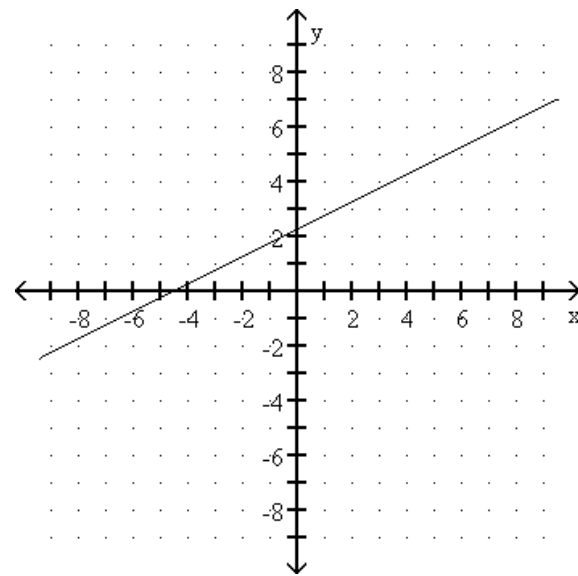
64) y = 5x + 6   64) _____

A)
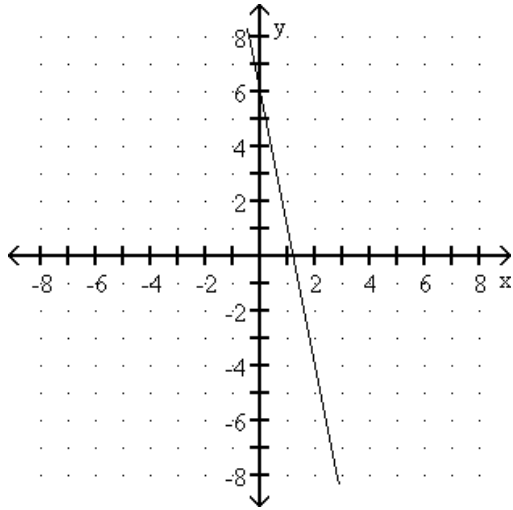
B)
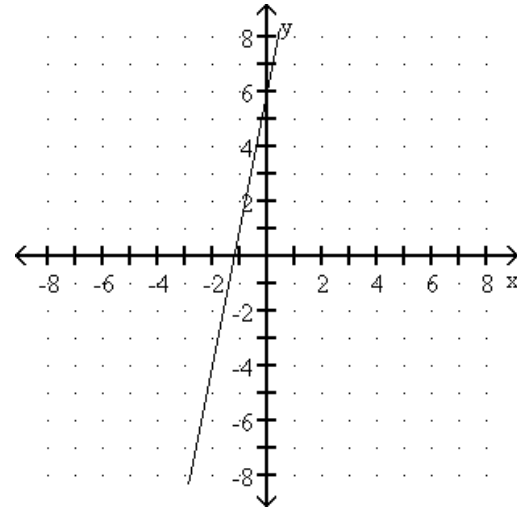
C)
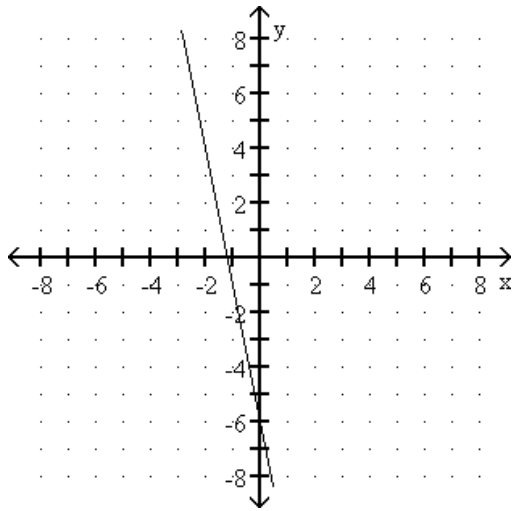
D)
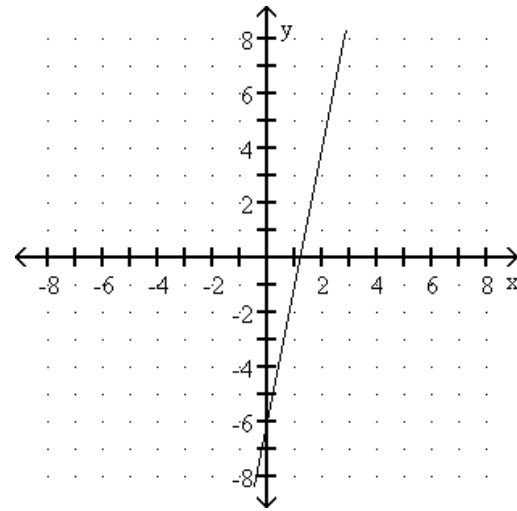
Solve the problem.

65) Kannanaski Rapids drops 62 ft over a horizontal distance of 837 ft. Find the slope of   65) _____
Kannanaski Rapids. Round your answer as appropriate.

   A) -62   B) -0.001   C) -0.074   D) -13.5

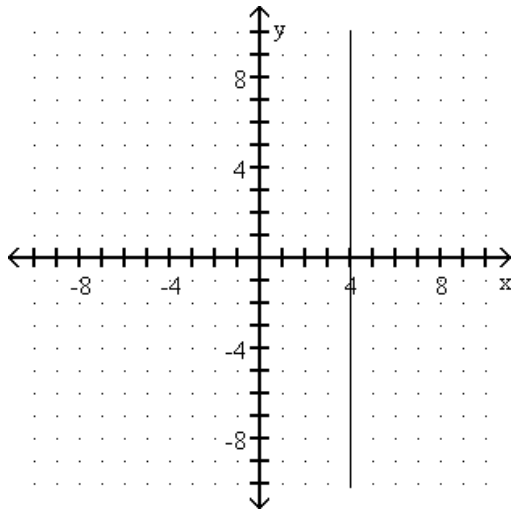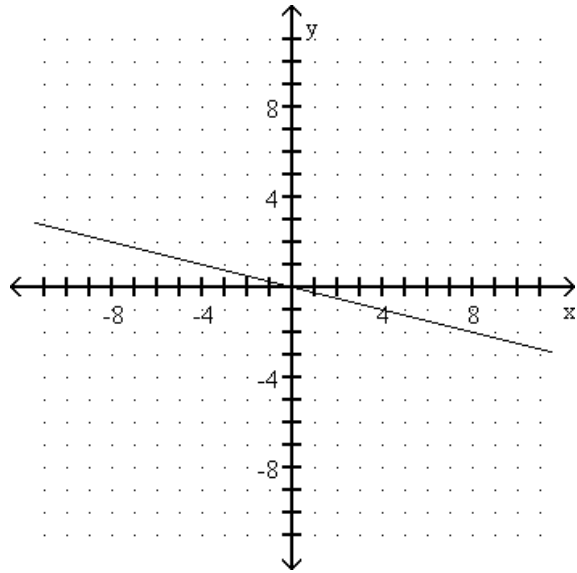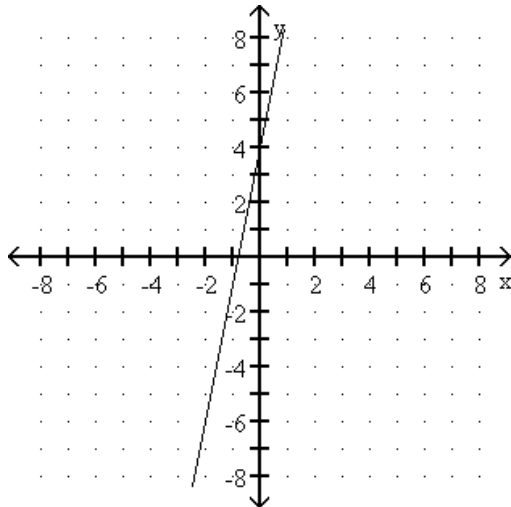66) A ladder is resting against a wall. The foot of the ladder is 5 feet from the wall, and the top of   66) _____
the ladder is 16 feet from the ground. Find the slope of the ladder.

   A) 5   B) 16   C) $\dfrac{5}{16}$ D) $\dfrac{16}{5}$

33

67)
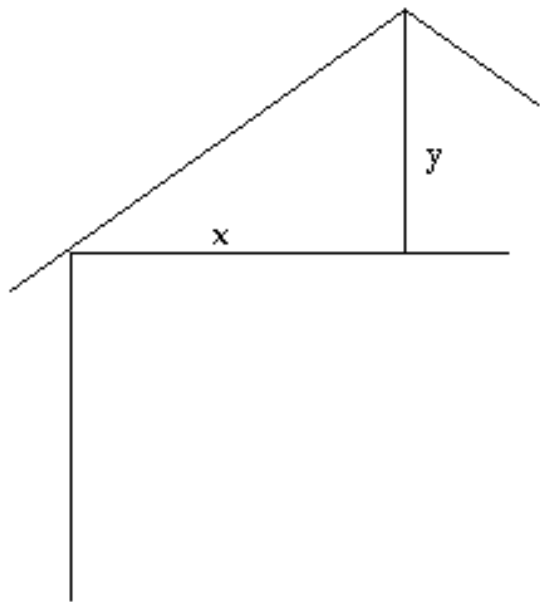
Let x = 28 and y = 7. Find the pitch of the roof.

A) $\frac{1}{4}$ B) $\frac{1}{3}$ C) $\frac{1}{6}$ D) $\frac{1}{2}$

Write the equation of the line in slope-intercept form.

68)
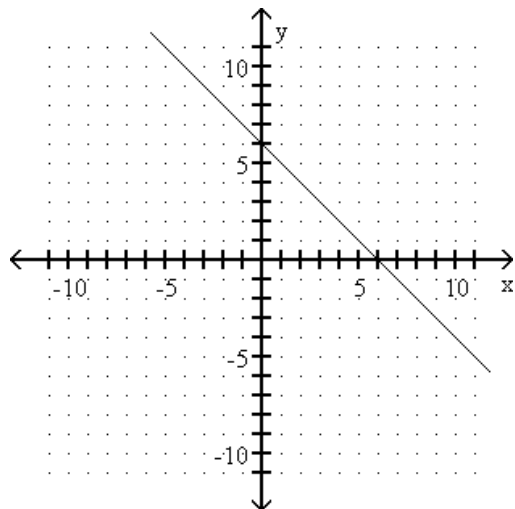
A) y = - x - 6   B) y = x - 6   C) y = x + 6   D) y = - x + 6

69)
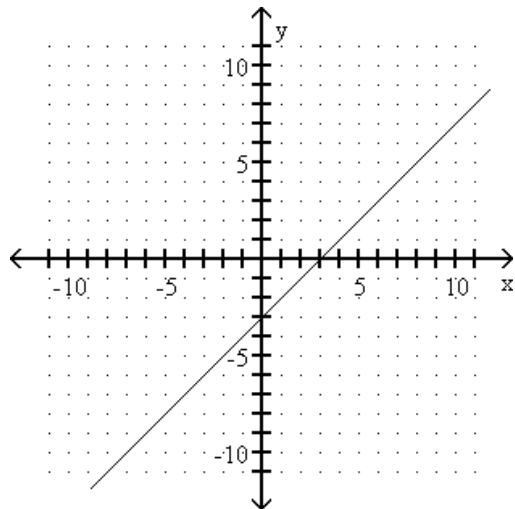
A) y = x + 3   B) y = x - 3   C) y = - x - 3   D) y = - x + 3

70)
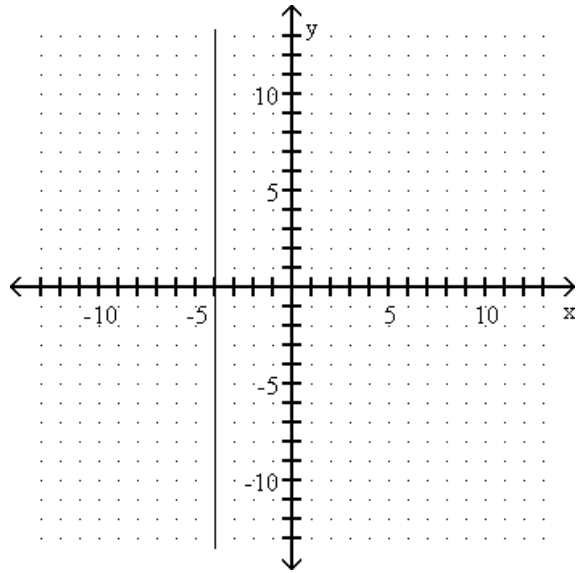
A) x = 4   B) y = 4   C) y = -4   D) x = -4

71)

A) $y = \dfrac{2}{3}x - 2$ B) $y = x + 3$ C) $y = -2x - 2$ D) $y = \dfrac{3}{2}x + 3$

72)
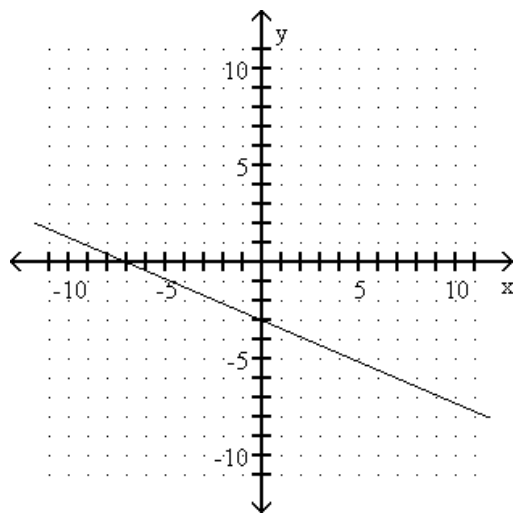
A) $y = -\dfrac{3}{7}x - 3$ B) $y = -7x - 7$ C) $y = -\dfrac{7}{3}x - 7$ D) $y = -x - 3$

73)
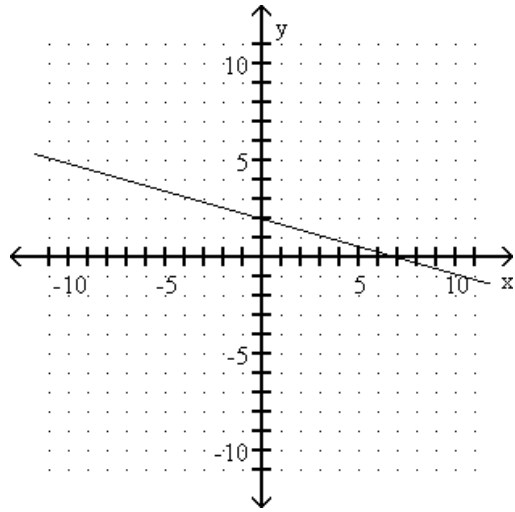
A) $y = -\dfrac{2}{7}x + 2$ B) $y = x + 2$ C) $y = -\dfrac{7}{2}x + 7$ D) $y = 7x + 7$

73) _____

Write the equation of the line in slope-intercept form given the slope and the coordinates of the y-intercept.

74) m = 2; (0, -4)

A) $y = 2x - 4$ B) $y = -2x + 4$ C) $y = -4x + 2$ D) $y = 4x - 2$

74) _____

75) m = -2; (0, -8)

A) $y = 2x - 8$ B) $y = -8x - 2$ C) $y = -2x - 8$ D) $y = -2x + 8$

75) _____

76) m = -4; (0, 7)

A) $y = 4x - 7$ B) $y = -4x - 7$ C) $y = -4x + 7$ D) $y = 4x + 7$

76) _____

77) m = 0.86; (0, 4.8)

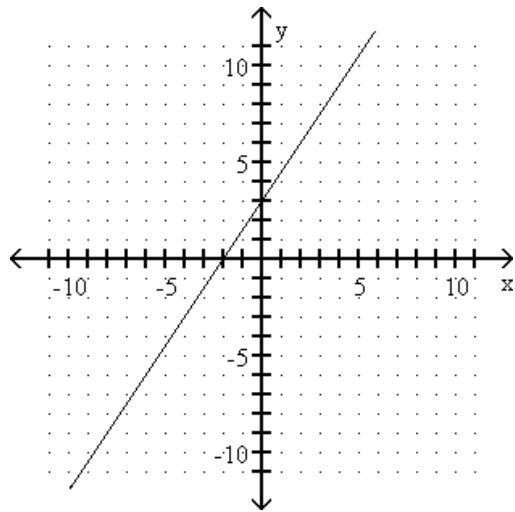A) $y = 0.86x + 4.8$ B) $y = 4.8x$ C) $y = 0.86x - 4.8$ D) $y = -0.86x + 4.8$

77) _____

78) $m = -\dfrac{3}{5}; \left(0, \dfrac{5}{7}\right)$

A) $y = -\dfrac{3}{5}x$ B) $y = \dfrac{3}{5}x - \dfrac{5}{7}$ C) $y = -\dfrac{3}{5}x + \dfrac{5}{7}$ D) $y = \dfrac{3}{5}x + \dfrac{5}{7}$

78) _____

1) D
2) B
3) A
4) D
5) D
6) B
7) C
8) C
9) D
10) C
11) D
12) A
13) A
14) B
15) C
16) D
17) C
18) B
19) B
20) A
21) B
22) A
23) C
24) A
25) D
26) B
27) B
28) C
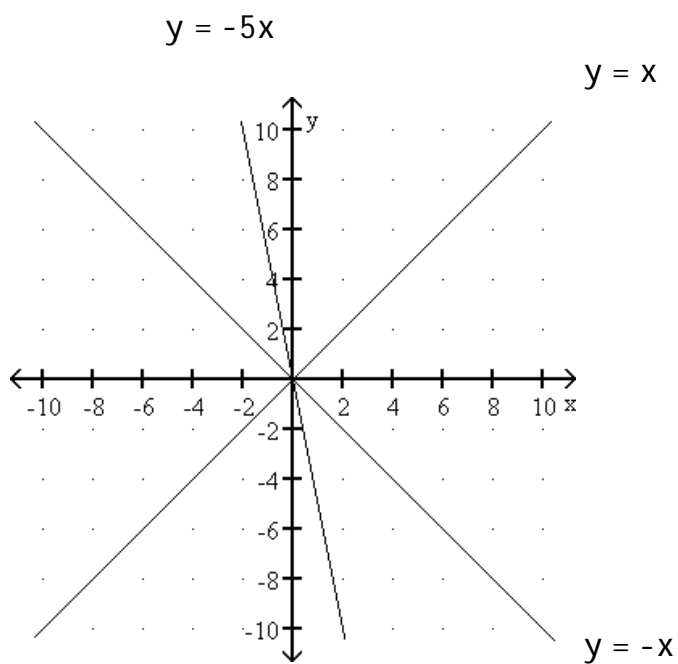29) A
30) D
31) D
32) D
33) B
34) A
35) D
36) C
37) C
38) C
39) D

40) Answers may vary. One possibility:

For y = x, the slope is 1; for y = -x, the slope is -1; for y = -5x, the slope is -5. The first two lines are equally steep. The third line is steeper, since the absolute value of its slope is greater than the absolute value of the slope of either of the other lines. Since the first line has a positive slope, it goes uphill from left to right. Since the other two lines have a negative slope, they go downhill from left to right. The y-intercept of all three lines is the origin, (0, 0).

41) D
42) C
43) A
44) B
45) D
46) C
47) A
48) B
49) A
50) C
51) B
52) A
53) B
54) B
55) D
56) B
57) C
58) C
59) D
60) B
61) D
62) A
63) D
64) B
65) C

66) D
67) A
68) D
69) B
70) D
71) D
72) A
73) A
74) A
75) C
76) C
77) A
78) C