Practice 3 Linear Equations   Date:_____   Name_____
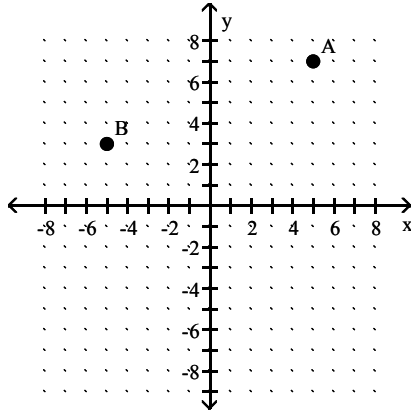
Find the x– and y–coordinates of the following labeled points.

1)

1) _____

A) A(5, 3); B (7, 3)   B) A(5, 7); B(3, –5)
C) A(5, 7); B(–5, 3)   D) A(7, 26); B(3, –5)

Complete the ordered pair for the given equation.

2) $y = -x + 8$ (3,   )

2) _____

   A) (3, –5)   B) (3, 15)   C) (3, 5)   D) (3, 3)

3) $y = -3x - 8$ (–1,   )

3) _____

   A) (–1, 24)   B) (–1, –8)   C) (–1, 6)   D) (–1, –5)

4) $9x + y = -69$ (0,   )

4) _____

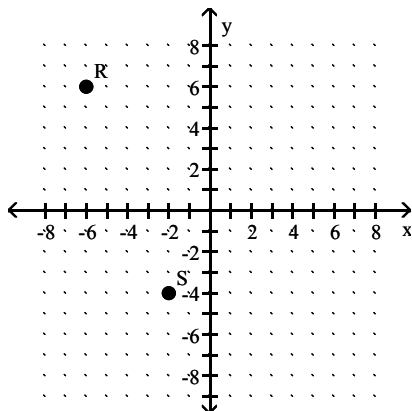   A) (0, –78)   B) (0, –621)   C) (0, –8)   D) (0, –69)

Find the x– and y–coordinates of the following labeled points.

5)

5) _____

A) R(–6, –4); S(6, –4)   B) R(–6, 6); S(–2, –4)
C) R(6, 4); S(–4, –2)   D) R(–6, 6); S(–4, –2)

Determine whether the ordered pair is a solution of the given linear equation.

6) $x = 24y$; (0, 0)

6) _____

   A) yes   B) no

7) $x = 9y$; (1, 9)

7) _____

   A) yes   B) no

1

8) y = 5x – 1; (5, 26)   8) _____
    A) yes   B) no

Find three ordered pair solutions by completing the table. Then use the ordered pairs to graph the equation.
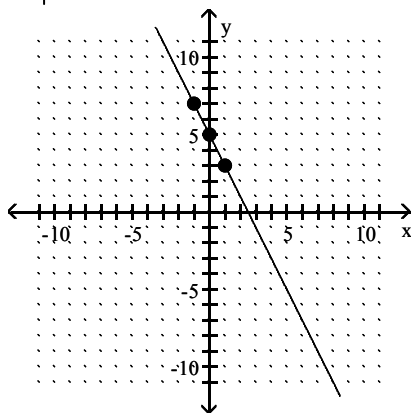   9) y = 2x + 5   9) _____
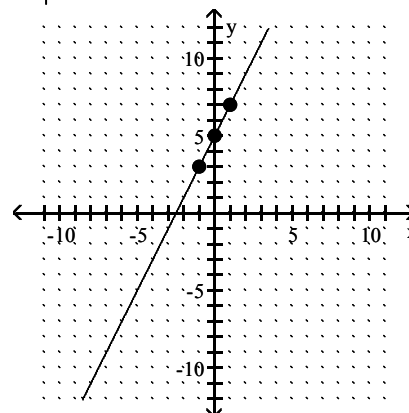
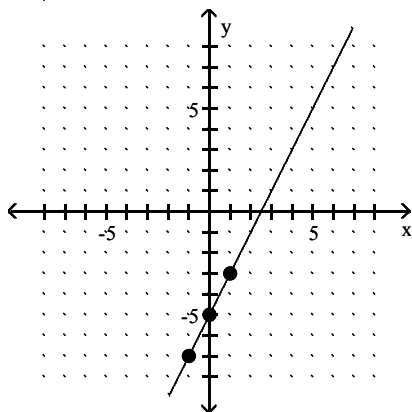| x	y
0	
1	
−1	

A)

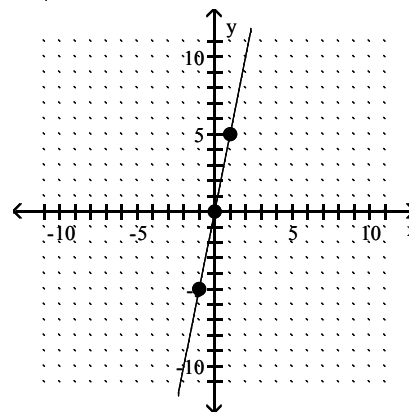| x	y
0	5
1	3
−1	7

B)

x	y
0	5
1	7
−1	3

C)
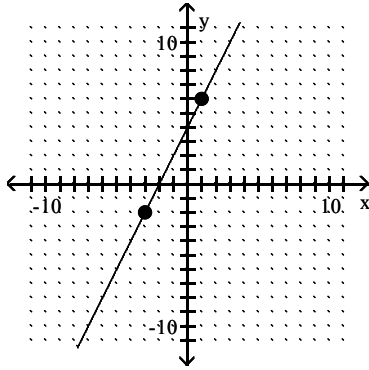
x	y
0	−5
1	−3
−1	−7

D)

x	y
0	0
1	5
−1	−5

2

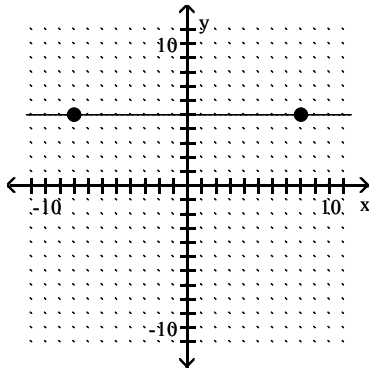**Decide whether the slope is positive, negative, zero, or undefined.**

10)

A) Undefined   B) Zero   C) Positive   D) Negative

10) _____

11)

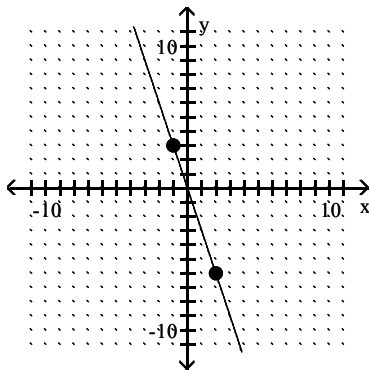A) Undefined   B) Negative   C) Positive   D) Zero

11) _____

Use the coordinates of the indicated points to find the ratio of rise to run for the line.
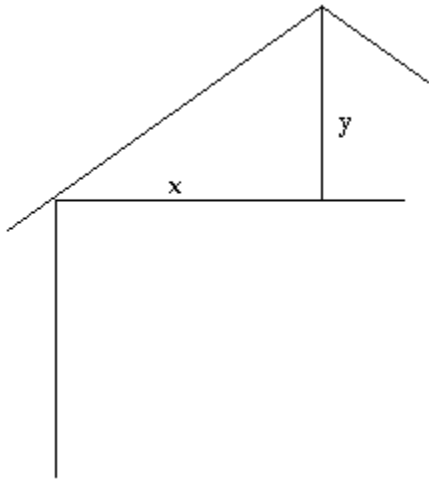
12)

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

12) _____

3

Solve the problem.

Let x = 28 and y = 7. Find the pitch of the roof.
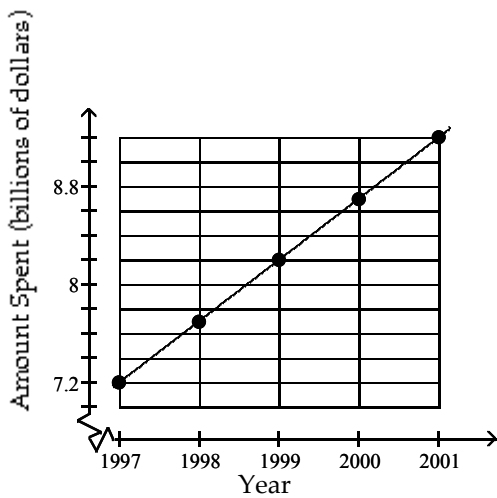
A) $\frac{1}{3}$ B) $\frac{1}{4}$ C) $\frac{1}{2}$ D) $\frac{1}{6}$

14) Data regarding the amount spent by a government department is represented in the following graph. Find the change in amount spent for the years shown in the graph. Is the graph a straight line?

14) _____

A) Change for each year: $0.325 billion; yes

B) Change from 1998 to 1999: $0.5 billion, change from 1999 to 2000: $0.12 billion; no

C) Change for each year: $0.12 billion; yes

D) Change for each year: $0.5 billion; yes

Find the slope of the line going through the given pair of points.

15) (1, 5) and (8, 9)

15) _____

A) 4 B) $\frac{1}{4}$ C) $\frac{7}{4}$ D) $\frac{4}{7}$

16) (−5, 0) and (0, −9)

16) _____

A) $-\frac{5}{9}$ B) $-\frac{9}{5}$ C) $\frac{5}{9}$ D) $\frac{9}{5}$

Find the slope of the line that passes through the given points.

17) (3, –17) and (–6, 7)

A) $\dfrac{10}{3}$ B) $-\dfrac{3}{8}$ C) $\dfrac{8}{3}$ D) $-\dfrac{8}{3}$

17) _____

18) (–9, –6) and (–9, –3)

A) 0   B) undefined   C) $\dfrac{1}{2}$ D) $\dfrac{1}{6}$

18) _____

Find the slope of the line.

19) x = –5

A) m = –1   B) m = 0
C) m = 1   D) undefined slope

19) _____

20) y = 4x + 5

A) m = 4   B) m = 5   C) m = –4   D) m = $\dfrac{1}{4}$

20) _____

21) x + y = –3

A) m = 1   B) m = 0
C) undefined slope   D) m = –1

21) _____

22) 3x – 8y = 24

A) m = $-\dfrac{3}{8}$ B) m = $\dfrac{3}{8}$ C) m = $\dfrac{8}{3}$ D) m = 3

22) _____

Write an equation of the line with the given slope, m, and y–intercept (0, b).

23) m = 4, b = 7

A) y = –4x – 7   B) y = –7x – 4   C) y = 4x + 7   D) y = 7x + 4

23) _____

24) m = $\dfrac{1}{3}$, b = 2

A) y = $\dfrac{1}{3}$x + 2   B) y = $\dfrac{1}{3}$x – 2   C) y = $-\dfrac{1}{3}$x + 2   D) y = $-\dfrac{1}{3}$x – 2

24) _____

25) m = $\dfrac{9}{2}$, b = –7

A) y = $\dfrac{9}{2}$x + 7   B) y = $-\dfrac{9}{2}$x – 7   C) y = $\dfrac{9}{2}$x – 7   D) y = $-\dfrac{9}{2}$x + 7

25) _____

Find an equation of the line with the given slope that passes through the given point. Write the equation in the form Ax + By = C.

26) m = 6; (4, 9)

A) 6x – y = 15   B) 6x – y = 50   C) 6x – y = –33   D) 6x – y = –9

26) _____

27) m = –5; (–1, –10)

A) 5x + y = 15   B) 5x + y = –51   C) 5x + y = –15   D) 5x + y = –10

27) _____

28) $m = -\dfrac{1}{5};\ (1, 0)$ 28) _____

    A) x + 1y = 5   B) x + 5y = 1   C) x + 5y = 5   D) x + 5y = –1

Find an equation of the line described. Write the equation in slope –intercept form if possible.

29) Slope 3, through (6, 4)   29) _____

    A) y = 3x + 14   B) x = 3y + 14   C) y = 3x – 14   D) x = 3y – 14

30) Slope $\dfrac{8}{9}$, through (3, 3)   30) _____

    A) $y = \dfrac{8}{9}x + \dfrac{1}{3}$ B) $y = \dfrac{8}{9}x - \dfrac{1}{3}$ C) $y = -\dfrac{8}{9}x + \dfrac{1}{3}$ D) $y = -\dfrac{8}{9}x - \dfrac{1}{3}$

31) Through (1, 8) and (7, 38)   31) _____

    A) $y = 5x + 3$ B) $y = -\dfrac{1}{5}x + \dfrac{41}{5}$ C) $y = -5x + 13$ D) $y = \dfrac{1}{5}x + \dfrac{39}{5}$

32) Through (5, –24) and (–8, 15)   32) _____

    A) $y = -3x - 9$ B) $y = -\dfrac{1}{3}x - \dfrac{67}{3}$ C) $y = \dfrac{1}{3}x - \dfrac{77}{3}$ D) $y = 3x - 39$

Determine whether the pair of lines is parallel, perpendicular, or neither.

33) y = 2x + 1   33) _____
    y = –2x + 5
    A) parallel   B) perpendicular   C) neither

34) y = 5x + 8   34) _____
    x – 5y = –4
    A) parallel   B) perpendicular   C) neither

Find the domain and the range of the relation.

35) {(9, 1), (–10, 0), (–2, –2), (13, –10)}   35) _____
    A) domain: {–10, –2, 9, 13} ; range: {–10, –2, 0, 1}
    B) domain: {–10, –2, 9, 13} ; range: {0, 1}
    C) domain: {–2, 0, 9, 13} ; range: {–10, –2, 1, 13}
    D) domain: {–10, 0, 1, 9} ; range: {–10, –2, 13}

36) {(8, 3), (–7, 3), (–5, 3)}   36) _____
    A) domain: {3} ; range: {–7, –5, 8}   B) domain: {–7, 3, 8} ; range: {–5}
    C) domain: {–7, –5, 8} ; range: {3}   D) domain: {–7, –5} ; range: {3, 8}

Determine whether the relation is also a function.

37) {(–1, –7), (2, –2), (4, –2), (7, –7), (10, –7)}   37) _____
    A) yes   B) no

38) {(1, –6), (1, –3), (6, 8), (7, 5), (10, –3)}   38) _____
    A) yes   B) no

39) {(–8, –3), (–8, 7), (–1, 6), (5, 1), (10, –3)}   39) _____
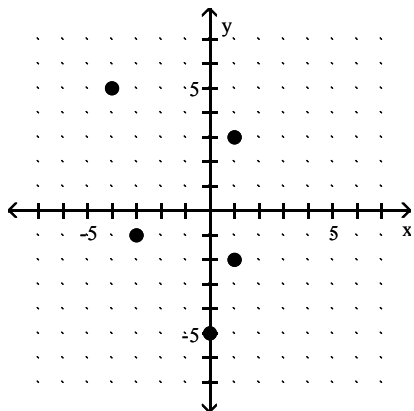   A) yes   B) no

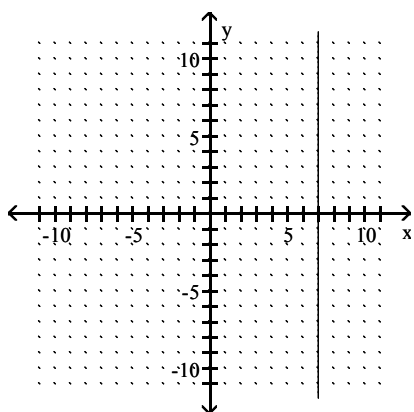**Determine whether the graph is the graph of a function.**

40)

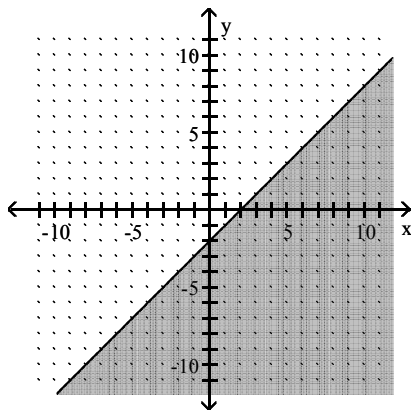A) yes   B) no
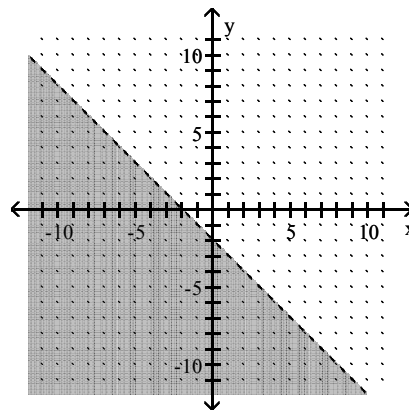
41)

A) yes   B) no

Graph the inequality.

42) x + y ≤ −2

A)

B)

C)

D)
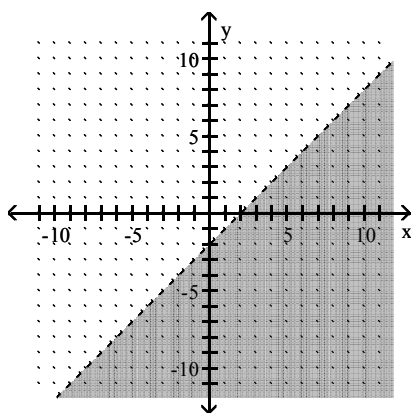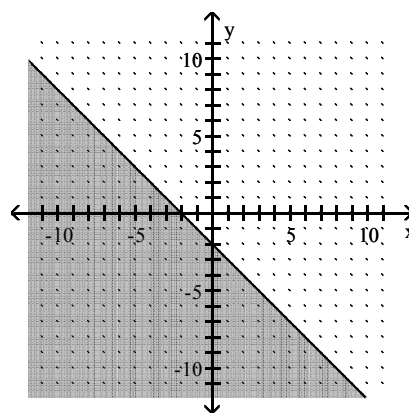
43) x – y > –6

A)
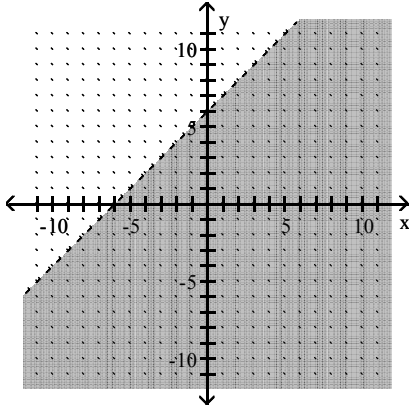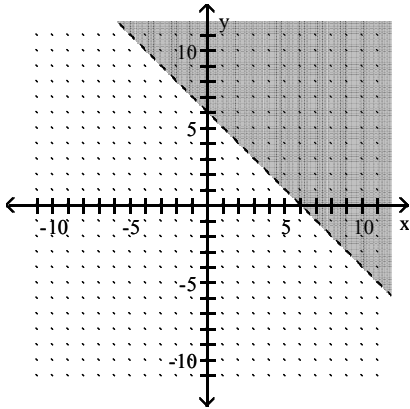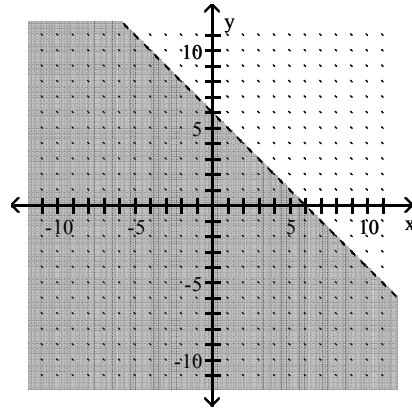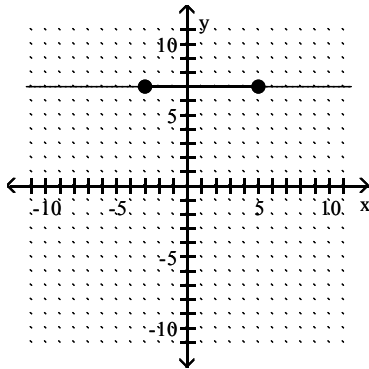

B)
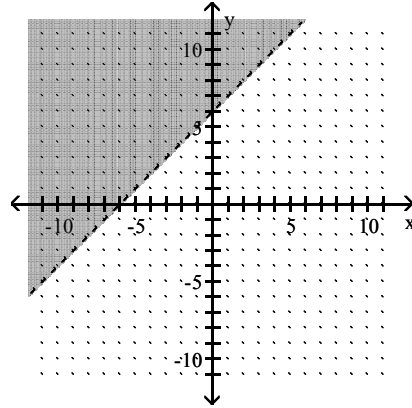
C)

D)

Use the coordinates of the indicated points to find the ratio of rise to run for the line.

44)

A) 2   B) Undefined   C) 7   D) 0

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