Chapter 3 Exam

Miles College MA 100

T. Dabit

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

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

1) $y = 2x; (-4, -8)$

A) no B) yes

Complete the table of ordered pairs for the given linear equation.

2) $5x + 2y = 10$

x	y
0	
	0
1	
	-5

A)

x	y
3	5
2	0
1	2.5
2	-5

B)

x	y
0	5
2	0
1	-2.5
4	-5

C)

x	y
0	5
2	0
1	2.5
4	-5

D)

x	y
0	-5
2	0
1	2.5
4	5

Determine whether the equation is a linear equation in two variables.

3) $1.7x + 3.9y = 5.8$

A) yes B) no

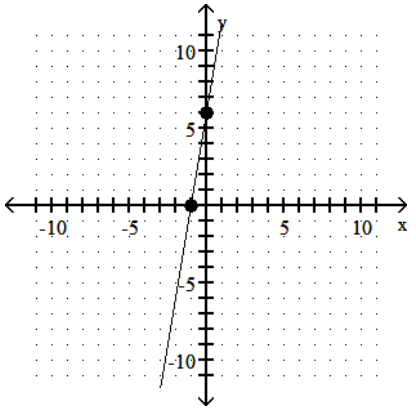
4) $5x^2 = 9y - 9$

A) yes B) no

Find the x - and y - intercept then graph the linear equation by plotting its intercepts.

5) $6x - 36y = 36$

A)



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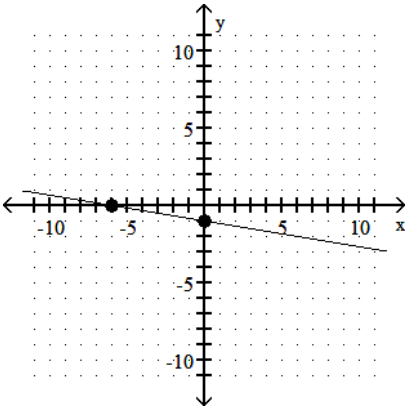
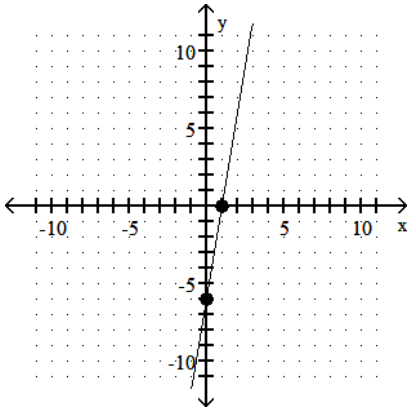
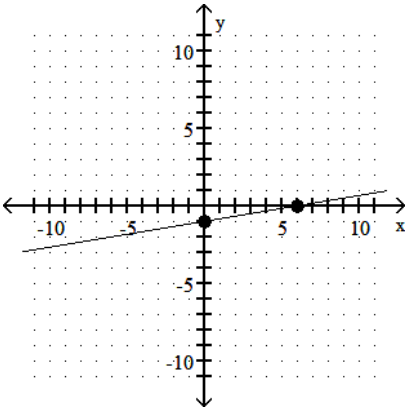


C)

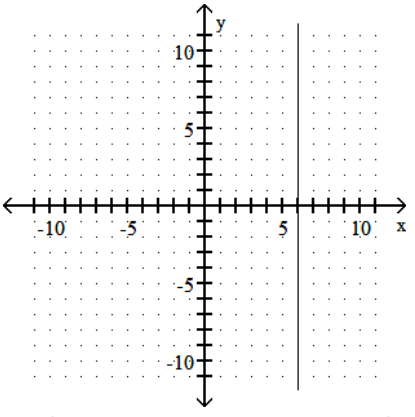


D)



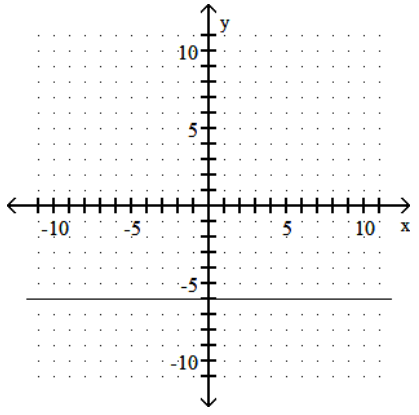
Match the graph with its equation.

6)



A) $y = x - 6$ B) $x =$ C) $y =$ D) $x = -6$

7)

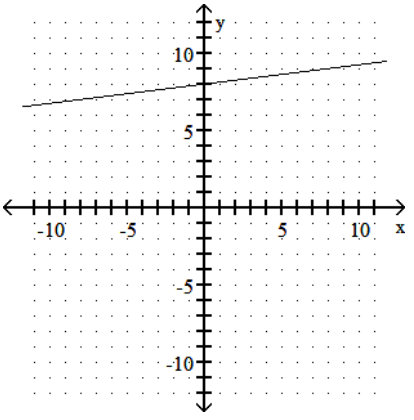


A) x = -6 B) y = C) y = -2x - 6 D) y = -6

Graph the linear equation.

8) $y = \frac{1}{8}x + 8$

A)



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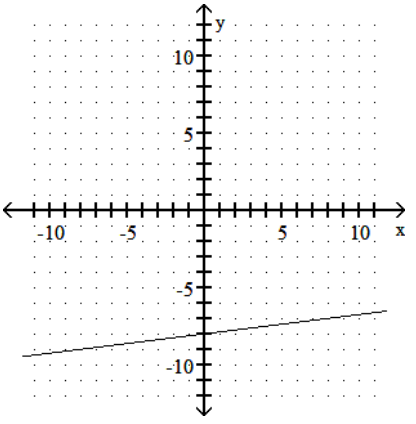

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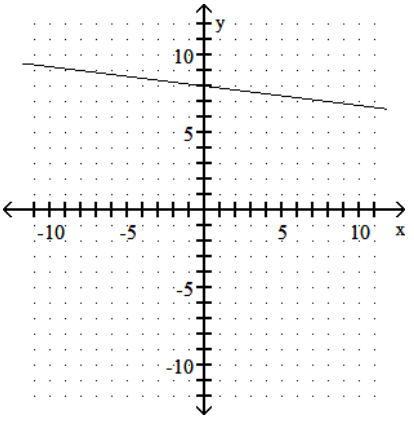
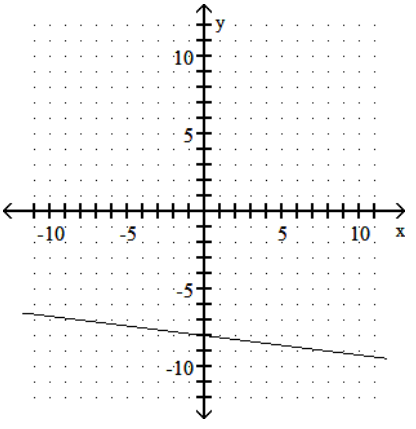
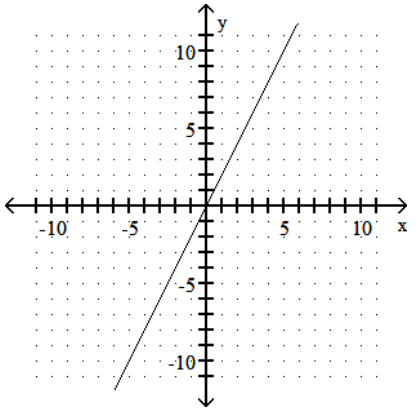


D)

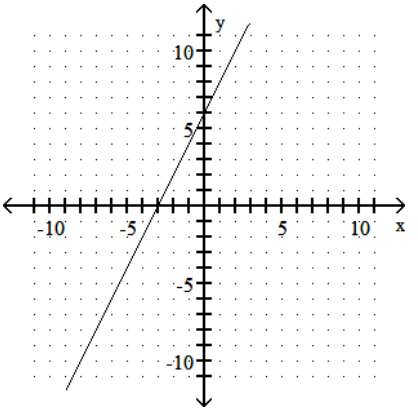


9) y = 2x - 6

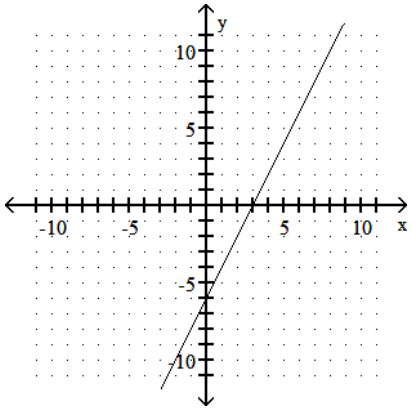
A)


y
10
5
-10
-5
5
10
x
-5
-10

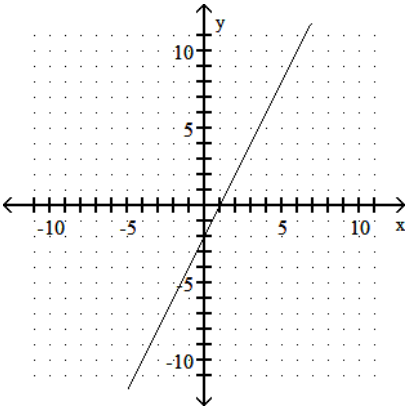
B)


y
10
5
-10
-5
5
10
x
-5
-10

C)

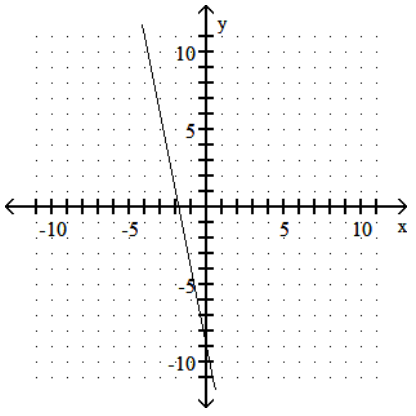

y
10
5
-10
-5
5
10
x
-5
-10

D)

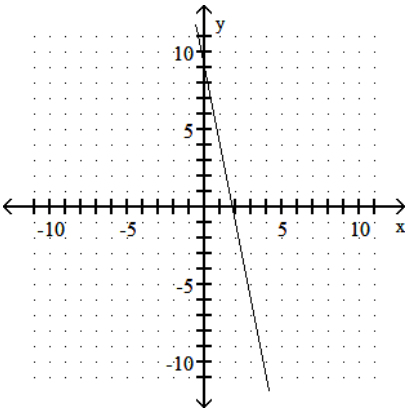

y
10
5
-10
-5
5
10
x
-5
-10

10) y = -5x + 9

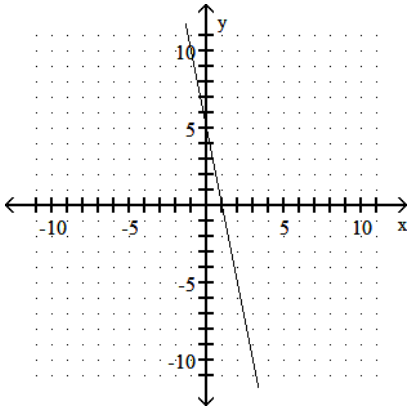
A)


y
10
5
-10
-5
5
10
x
-10
-5

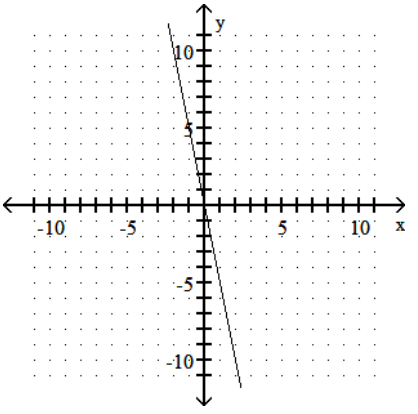
B)


y
10
5
-10
-5
5
10
x
-10
-5

C)

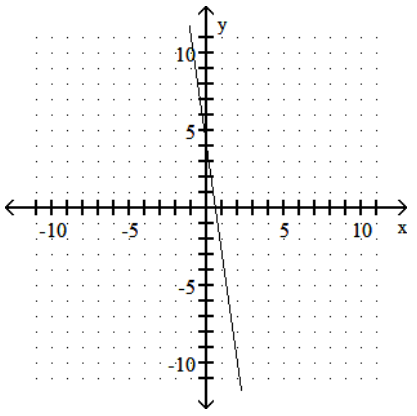

y
10
5
-10
-5
5
10
x
-10
-5

D)

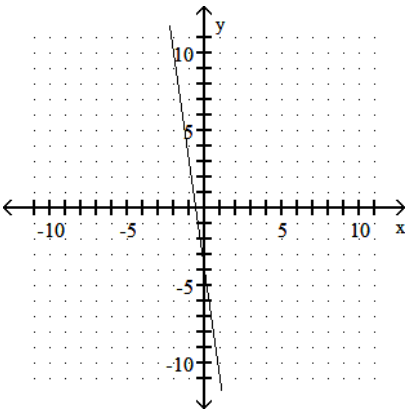

y
10
5
-10
-5
5
10
x
-10
-5

11) $2y + 14x = -8$

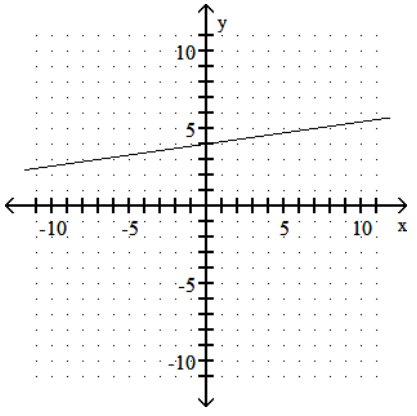
A)



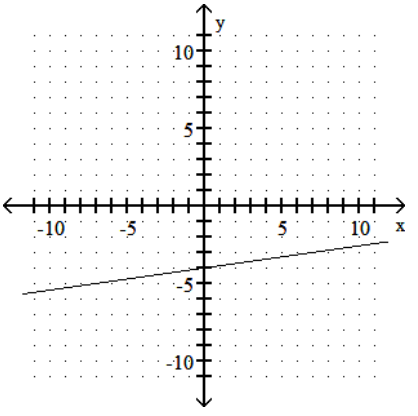
B)



C)



D)



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

12) (6, 0) and (0, 5)

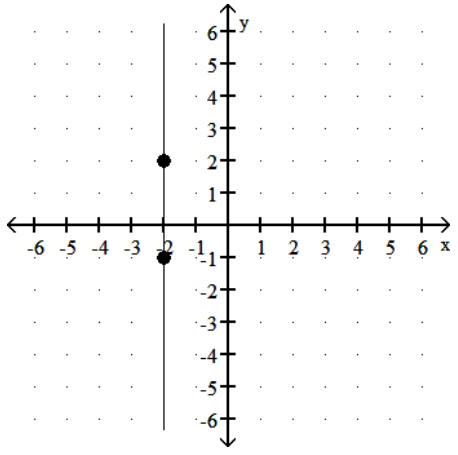
A) $\frac{6}{5}$ B) $-\frac{6}{5}$ C) $-\frac{5}{6}$ D) $\frac{5}{6}$

13) (2, 4) and (1, -7)

A) - 11 B) C) - 1 D) —

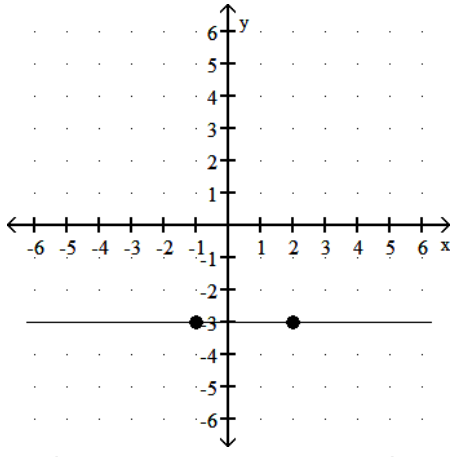
Find the slope of the line.

14)



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

15)



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

16) y = 4x - 7

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

17) -x + 10y = 20

A) m = - $\frac{1}{10}$ B) m = 10 C) m = $\frac{1}{10}$ D) m = -1

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

18) y = x - 5
y = -5x - 3

A) parallel B) perpendicular C) neither

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

$y = -\frac{2}{5}x - 3$

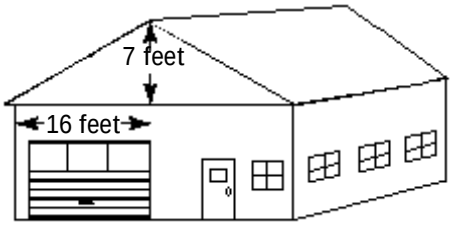
A) parallel B) perpendicular C) neither

20) $9x + 3y = 12$
$12x + 4y = 17$

A) parallel B) perpendicular C) neither

Solve.

21) The pitch of a roof is its slope. Find the pitch of the roof shown.



A) $\frac{7}{32}$ B) $\frac{7}{16}$ C) 112 D) $\frac{16}{7}$

22) To the nearest dollar, the average tuition at a public four-year college was $3065 in 1997 and $3228 in 2000. Use the ordered pairs (1997, $3065) and (2000, $3228) to find and interpret the slope of the line representing the change in tuition (to the nearest dollar per year).

A) tuition increased $71 per year B) tuition decreased $54 per year
C) tuition increased $65 per year D) tuition increased $54 per year

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

23) $m = -2, b = \frac{1}{2}$

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

24) $m = \frac{7}{5}, b = -2$

A) $y = -\frac{7}{5}x + 2$ B) $y = \frac{7}{5}x - 2$ C) $y = \frac{7}{5}x + 2$ D) $y = -\frac{7}{5}x - 2$

Write an equation of the line in slope-intercept form that has the following slope (m) and passes through the given point (x, y).

25) Slope 3, through (5, 3)

A) $y = 3x + 12$ B) $x = 3y - 12$ C) $x = 3y + 12$ D) $y = 3x - 12$

26) Slope $-\frac{3}{4}$, through $(3, 5)$

A) $y = -\frac{3}{4}x + \frac{29}{4}$ B) $y = -\frac{3}{4}x - \frac{29}{4}$ C) $y = \frac{3}{4}x - \frac{29}{4}$ D) $y = -\frac{4}{3}x - \frac{29}{3}$

Write an equation of the line in slope-intercept form that passes through the following points.

27) Through $(1, 9)$ and $(8, 23)$

A) $y = \frac{1}{2}x + \frac{17}{2}$ B) $y = -2x + 11$ C) $y = 2x + 7$ D) $y = -\frac{1}{2}x + \frac{19}{2}$

28) Through $(3, -19)$ and $(10, -82)$

A) $y = 9x - 46$ B) $y = \frac{1}{9}x - \frac{58}{3}$ C) $y = -\frac{1}{9}x - \frac{56}{3}$ D) $y = -9x + 8$

Solve. Assume the exercise describes a linear relationship.

29) In a certain city, the cost of a taxi ride is computed as follows: There is a fixed charge of $2.60 as soon as you get in the taxi, to which a charge of $2.10 per mile is added. Find an equation that can be used to determine the cost of an x-mile taxi ride. Use this equation to find the cost of a 5-mile taxi ride.

A) $12.98 B) $14.00 C) $13.10 D) $13.28

30) Marty's Tee Shirt & Jacket Company is to produce a new line of jackets with a embroidery of a Great Pyrenees dog on the front. There are fixed costs of $560 to set up for production, and variable costs of $30 per jacket. Write an equation that can be used to determine the total cost encountered by Marty's Company in producing x jackets. Use the equation to find the total cost of producing 126 jackets.

A) $4352 B) $4332 C) $4320 D) $4340