Name_____

Find a solution to the equation using the value given for x.
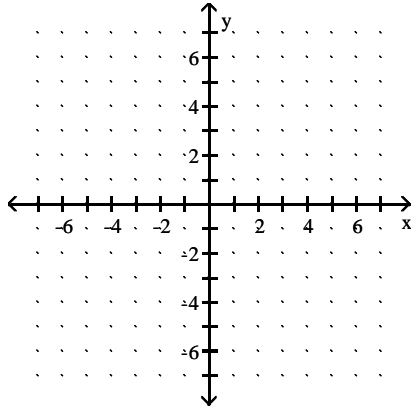
1) $y = -7x - 4$; $x = -3$

1) _____

Graph the linear equation in two variables.
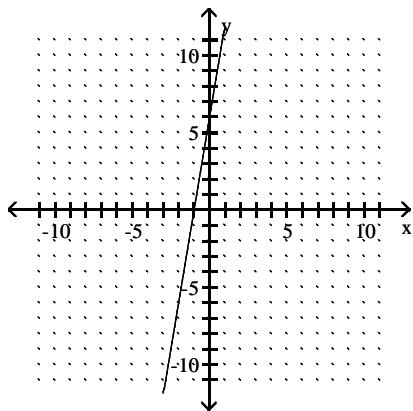
2) $y = -8x + 5$

2) _____

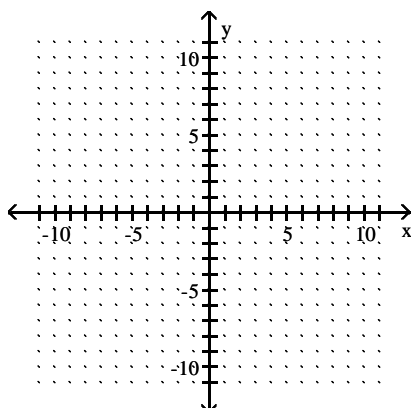**Use the graph to identify the x- and y- intercepts or state that there is no x- or y-intercept.**

3)

3) _____
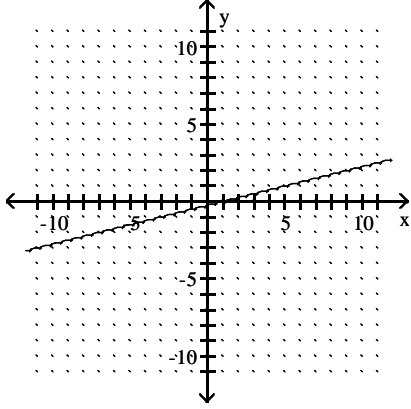

Graph the linear equation.

4) $y = 4$

4) _____

Find the slope of the line passing through the pair of points or state that the slope is undefined.

5) (3, -3) and (-2, 9)

5) _____

Find the slope of the line, or state that the slope is undefined.

6)

6) _____

Determine whether the lines through each pair of points are parallel, perpendicular, or neither.

7) (10, -7) and (-2, -13); (-2, -8) and (1, -14)

7) _____

Find the slope and the y-intercept of the line with the given equation.

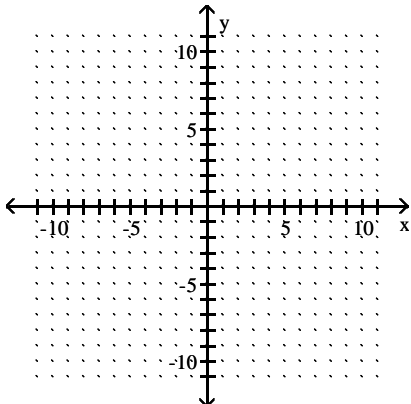8) 8x + y = 6

8) _____

Graph the linear equation using the slope and y-intercept.

9) $y = \frac{1}{3}x + 3$

9) _____

2

Use the given conditions to write an equation for the line in point-slope form and slope intercept form.

10) Passing through (3, -7) and (1, -3)   10) _____

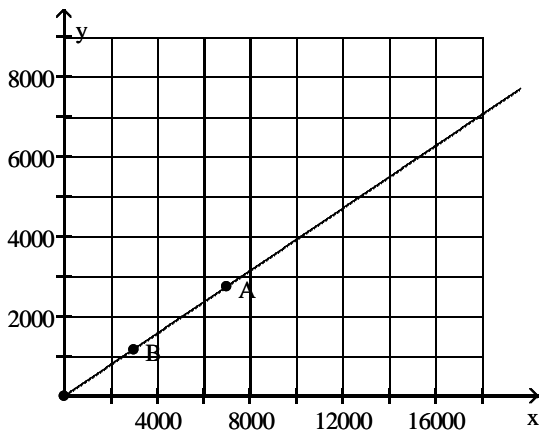**Use the given conditions to write an equation for the line in slope-intercept form.**

11) Passing through (2, -2) and parallel to the line whose equation is $y = -3x + 4$.   11) _____

Solve the problem.

12) The graph shows the total cost y (in dollars) of owning and operating a mini-van where x   12) _____
    is the number of miles driven.

A: (7000, 2739.1)
B: (3000, 1173.9)

Find the slope of the line passing through the two points shown and use your answer to
complete this statement:
For the range of miles shown, the cost of owning and operating a mini-van increases by
approximately _____ per _____ driven.

3

Determine whether the ordered pair is a solution of the system.
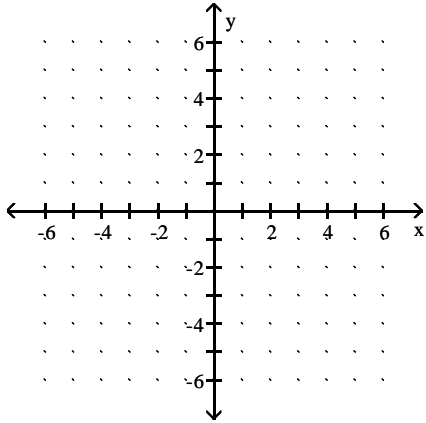
13) $(-4, 3)$

$4x + y = -13$

$2x + 4y = 4$

13) _____

Solve the system by graphing. If there is no solution or an infinite number of solutions, so state.

14) $3x + y = -6$

$4x + 5y = 14$

14) _____

Solve the system by the substitution method. If there is no solution or an infinite number of solutions, so state.

15) $y = 2x - 3$

$2x + y = 17$

15) _____

Solve the system by the addition method. If there is no solution or an infinite number of solutions, so state.

16) $2x - y = 3$

$3x + y = 17$

16) _____

17) $-6x - 3y = -4$

$-12x - 6y = -8$

17) _____

Solve the system by the substitution method. If there is no solution or an infinite number of solutions, so state.

18) $x - 6 = y$

$y + 4 = x$

18) _____

Solve the problem.

19) Devon purchased tickets to an air show for 8 adults and 2 children. The total cost was $128. The cost of a child's ticket was $6 less than the cost of an adult's ticket. Find the price of an adult's ticket and a child's ticket.

19) _____

20) Jamil always throws loose change into a pencil holder on his desk and takes it out every two weeks. This time it is all nickels and dimes. There are 7 times as many dimes as nickels, and the value of the dimes is $3.25 more than the value of the nickels. How many nickels and dimes does Jamil have?

20) _____

21) On a buying trip in Los Angeles, Rosaria Perez ordered 120 pieces of jewelry: a number of bracelets at $8 each and a number of necklaces at $11 each. She wrote a check for $1200 to pay for the order. How many bracelets and how many necklaces did Rosaria purchase?

21) _____

22) A retired couple has $170,000 to invest to obtain annual income. They want some of it invested in safe Certificates of Deposit yielding 7%. The rest they want to invest in AA bonds yielding 12% per year. How much should they invest in each to realize exactly $ 17,900 per year?

22) _____

23) A chemist needs 140 milliliters of a 66% solution but has only 51% and 93% solutions available. Find how many milliliters of each that should be mixed to get the desired solution.

23) _____

24) Julie and Eric row their boat (at a constant speed) 35 miles downstream for 5 hours, helped by the current. Rowing at the same rate, the trip back against the current takes 7 hours. Find the rate of the current.
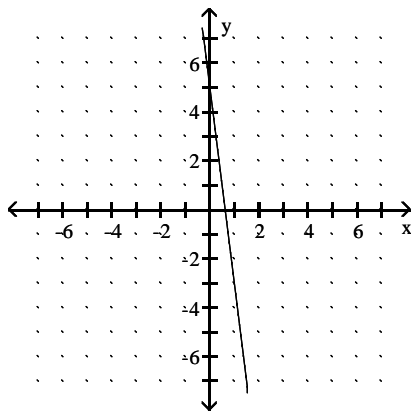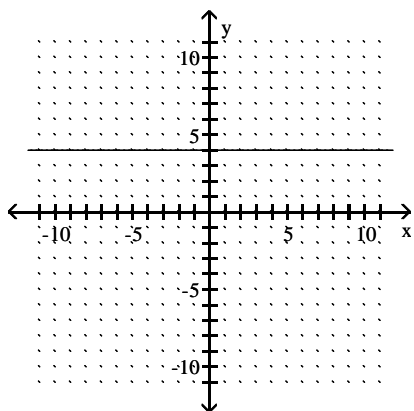
24) _____

1) (-3, 17)

2)

3) x-intercept = -1; y-intercept = 6

4)
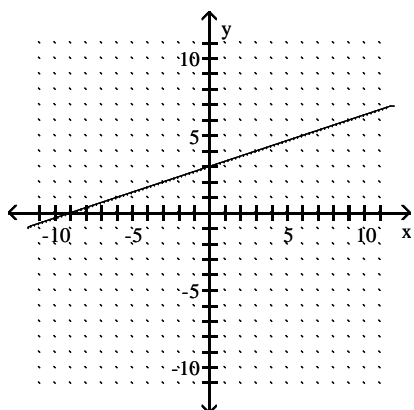

5) $-\dfrac{12}{5}$

6) $\dfrac{1}{4}$

7) perpendicular

8) m = -8; y-intercept = 6

9)

10) y + 7 = -2(x - 3) or y + 3 = -2(x - 1); y = -2x - 1

11) y = -3x + 4

12) $0.39 per mile
13) solution
14) {(-4, 6)}
15) {(5, 7)}
16) {(4, 5)}
17) infinitely many solutions; {(x, y)| -6x - 3y = -4} or {(x, y)| -12x - 6y = -8}
18) no solution; ∅
19) adult's ticket: $14; child's ticket: $8
20) 5 nickels and 35 dimes
21) 40 bracelets and 80 necklaces
22) $120,000 at 12% and $50,000 at 7%
23) 90 milliliters of 51%; 50 milliliters of 93%
24) 1 mph