

Name _____

Decide whether or not the ordered pair is a solution of the system.

1) (1, -4)
 $x + y = -3$
 $x - y = 5$

2) (5, -2)
 $x + y = -7$
 $x - y = -3$

3) (2, 1)
 $3x + y = 7$
 $2x + 3y = 7$

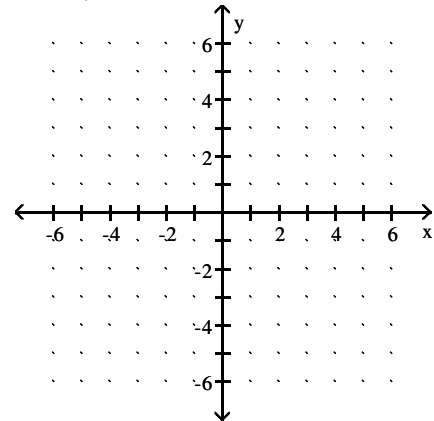
4) (5, 6)
 $4x + y = 14$
 $2x + 4y = -14$

5) (-6, -2)
 $4x = -26 - y$
 $3x = -26 - 4y$

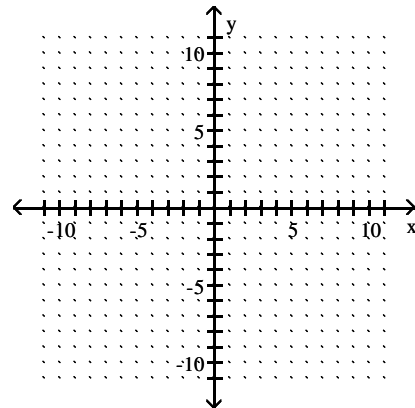
6) (-1, -4)
 $2x = -2 - y$
 $4x = -4 - 2y$

Solve the system by graphing.

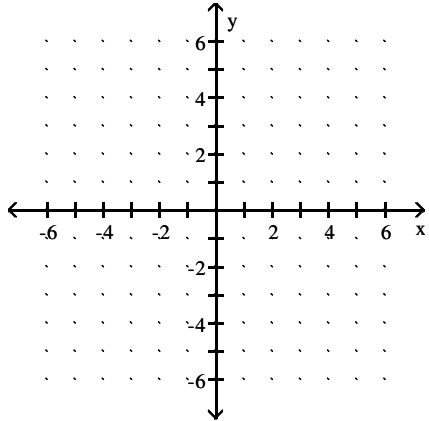
7) $5x + y = -19$
 $2x + 6y = 26$



8) $x + y = -5$
 $x - y = -3$

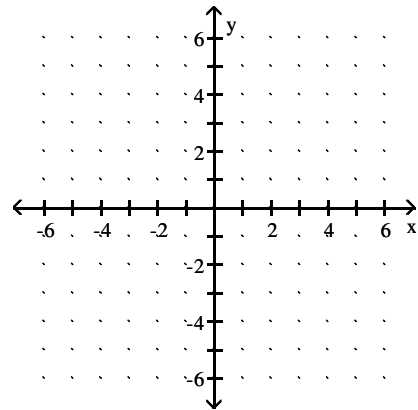


9) $2x + 4y = 26$
 $3x + 3y = 21$

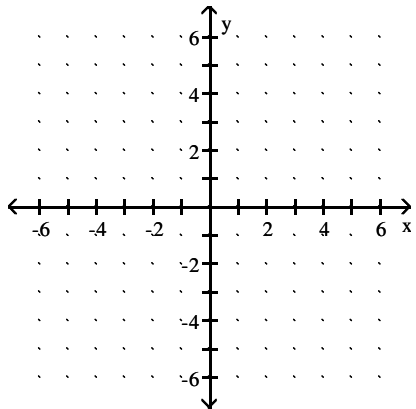


11) $\frac{1}{6}x - y = 1$

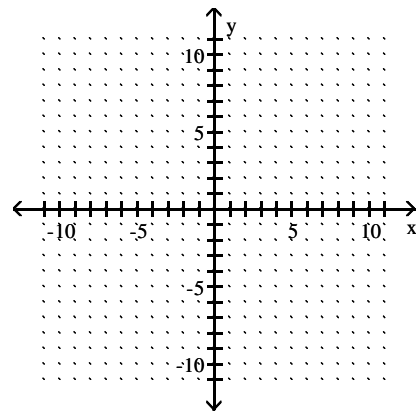
$x = 6$



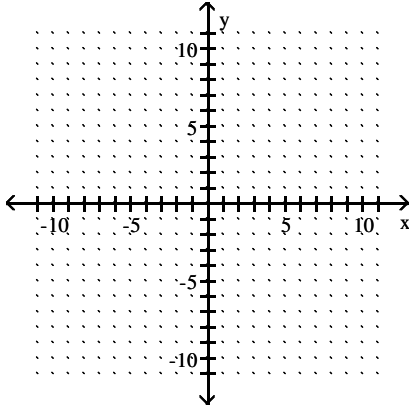
10) $3x + y = -9$
 $2x + 5y = 20$



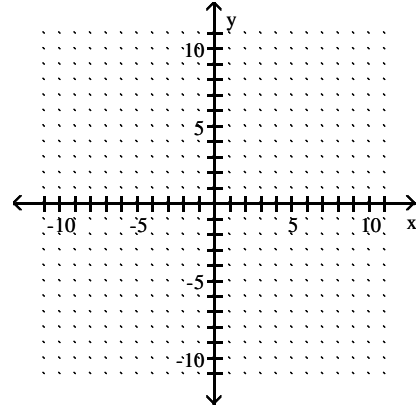
12) $y = x + 7$
 $y = 2x + 10$



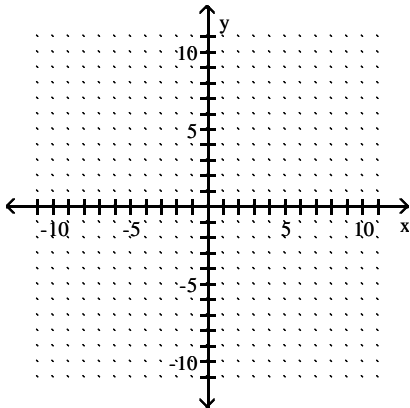
13) $3x + y = 0$
 $2x + y = -1$



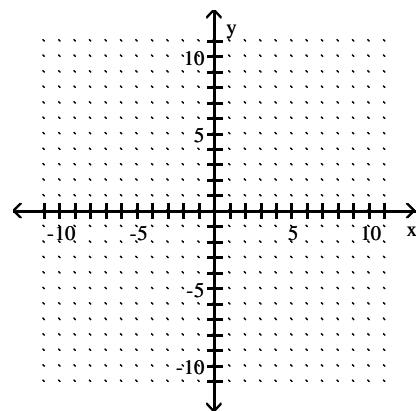
15) $2x - y = -5$
 $y = -1$



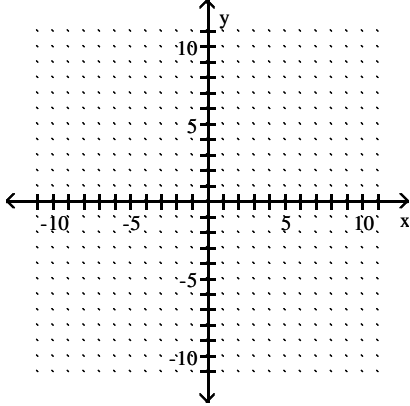
14) $y = -x + 1$
 $y = 2x - 5$



16) $x + \frac{1}{4}y = -1$
 $x = 1$

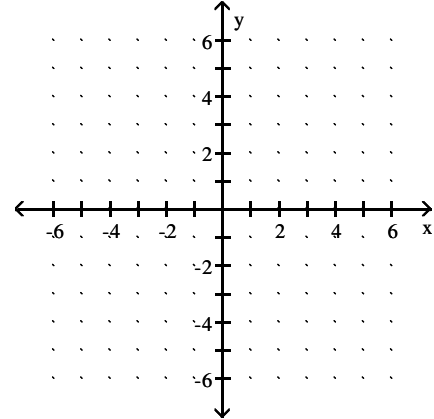


17) $x - 3y = -1$
 $2x + 3y = 7$

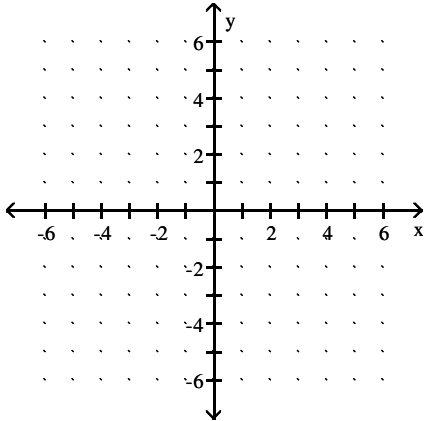


Solve the system by graphing. If there is no solution or an infinite number of solutions, so state.

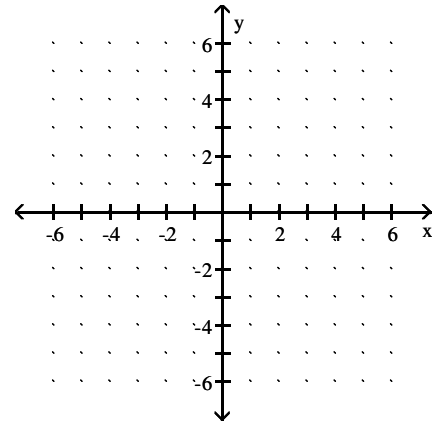
19) $y - 4x = 5$
 $6y = 24x + 30$



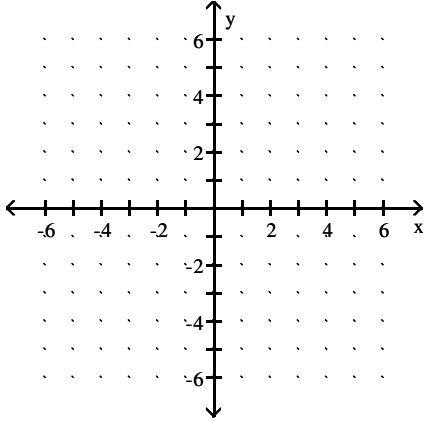
18) $x = 8$
 $y = -7$



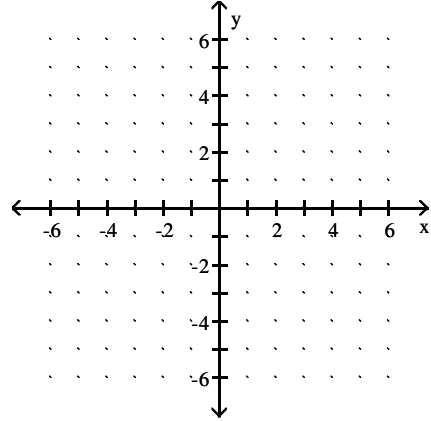
20) $2x + y = 8$
 $4x + 2y = 16$



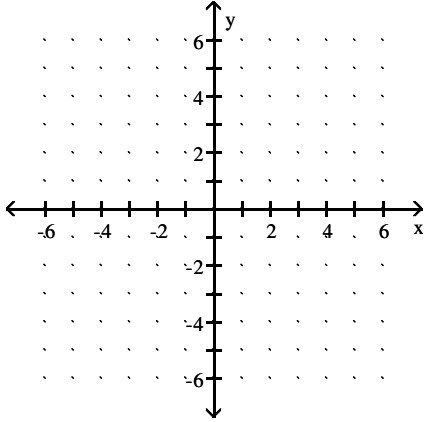
21) $x = -y$
 $y + x = 6$



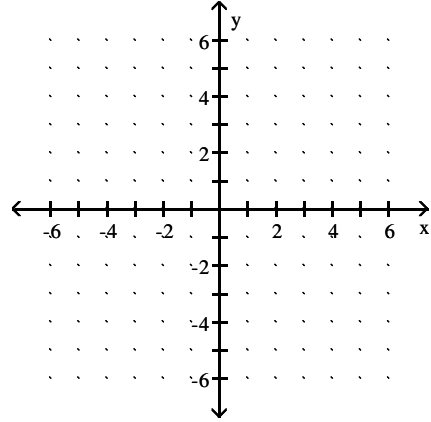
23) $x = 8$
 $x = -3$



22) $2x + y = 1$
 $2x + y = 3$



24) $y = 0$
 $y = -3$



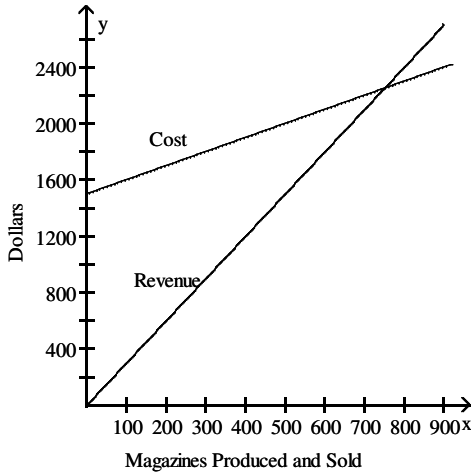
Solve the problem.

25) A company's cost for producing x magazines is given by the equation $y = x + 1500$. The revenue for selling x magazines is given by the equation $y = 3x$. The break-even point is the point at which the cost and revenue are the same. The graphs of the two equations are shown. Use the graph to solve the system.

$$y = x + 1500$$

$$y = 3x$$

Interpret the coordinates of the solution in practical terms.



26) Sybil is having her yard landscaped. She obtained an estimate from two landscaping companies. Company A gave an estimate of \$190 for materials and equipment rental plus \$45 per hour for labor. Company B gave an estimate of \$270 for materials and equipment rental plus \$35 per hour for labor. We can represent this situation with the system of linear equations

$$c = 190 + 45x$$

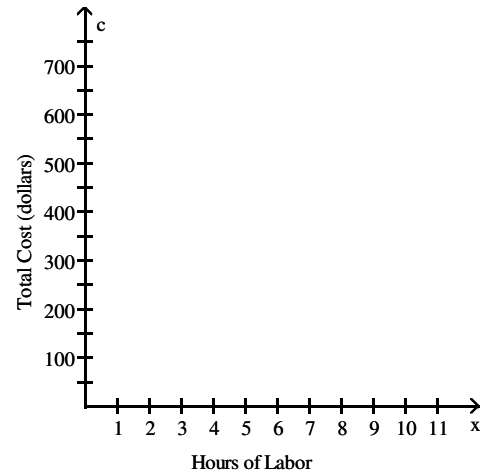
Company A

$$c = 270 + 35x$$

Company B

where c is the total cost and x is the number of hours of labor.

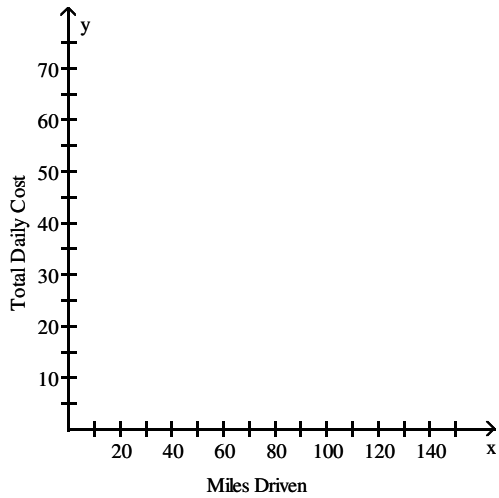
Graph the system. What is the x -coordinate of the intersection point of the graphs? Describe what this x -coordinate means in practical terms.



27) Vicki's car rental company charges \$25 per day plus \$0.25 per mile to rent a car. Joshua's rental company charges \$27 per day plus \$0.20 per mile. The total daily cost, y , in dollars, of renting the car if x miles are driven can be modeled by the linear system:

$$\begin{aligned} y &= 0.25x + 25 && \text{Vicki's} \\ y &= 0.20x + 27 && \text{Joshua's} \end{aligned}$$

Use graphing to solve the system. Interpret the coordinates of the solution in practical terms.



Answer Key

Testname: 05.1V01

- 1) Yes
- 2) No
- 3) Yes
- 4) No
- 5) Yes
- 6) No
- 7) $\{(-5, 6)\}$
- 8) $\{(-4, -1)\}$
- 9) $\{(1, 6)\}$
- 10) $\{(-5, 6)\}$
- 11) $\{(6, 0)\}$
- 12) $\{(-3, 4)\}$
- 13) $\{(1, -3)\}$
- 14) $\{(2, -1)\}$
- 15) $\{(-3, -1)\}$
- 16) $\{(1, -8)\}$
- 17) $\{(2, 1)\}$
- 18) $\{(8, -7)\}$
- 19) infinite number of solutions; $\{(x, y) \mid y - 4x = 5\}$ or $\{(x, y) \mid 6y = 24x + 30\}$
- 20) infinite number of solutions; $\{(x, y) \mid 2x + y = 8\}$ or $\{(x, y) \mid 4x + 2y = 16\}$
- 21) no solution; \emptyset
- 22) no solution; \emptyset
- 23) no solution; \emptyset
- 24) no solution; \emptyset
- 25) $\{(750, 2250)\}$; If 750 magazines are produced and sold, the company will break even: both cost and revenue will be equal to \$2250.
- 26) 8; for 8 hours of labor, both companies charge the same.
- 27) $\{(40, 35)\}$; Both companies charge \$35 for 40 miles driven.