

Name _____

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

1) $(-6, 3)$
 $x + y = -3$
 $x - y = -9$

2) $(-1, -6)$
 $x + y = -5$
 $x - y = 7$

3) $(-2, -3)$
 $4x + y = -11$
 $3x + 4y = -18$

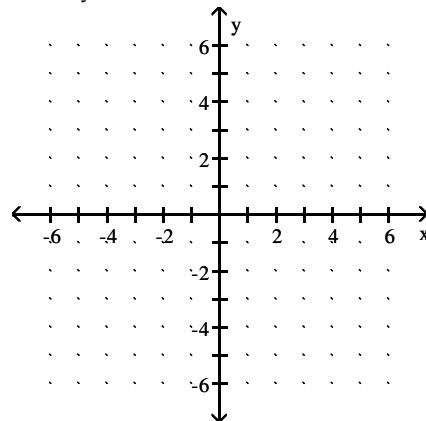
4) $(-4, -3)$
 $4x + y = -13$
 $2x + 4y = 4$

5) $(-4, 1)$
 $3x = -11 - y$
 $4x = -13 - 3y$

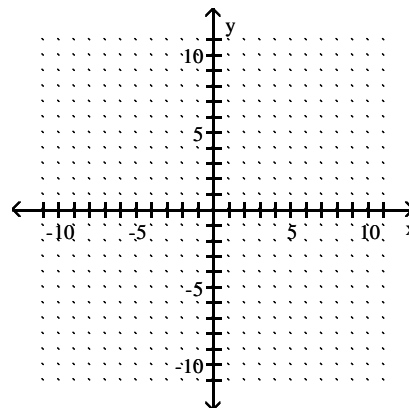
6) $(1, 1)$
 $4x = -3 - y$
 $2x = 2 - 4y$

Solve the system by graphing.

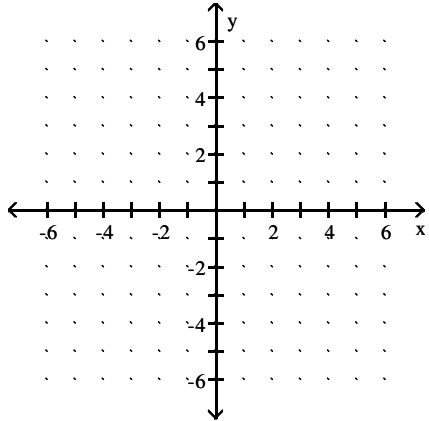
7) $3x + y = -9$
 $5x + 6y = -2$



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

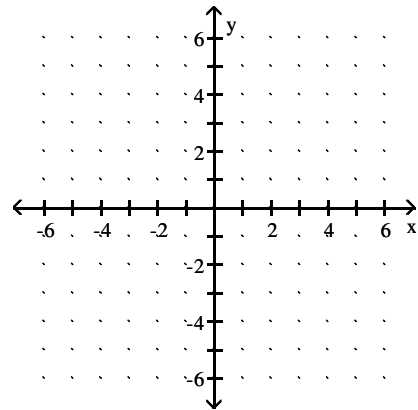


9) $4x + 3y = 22$
 $3x - 2y = -9$

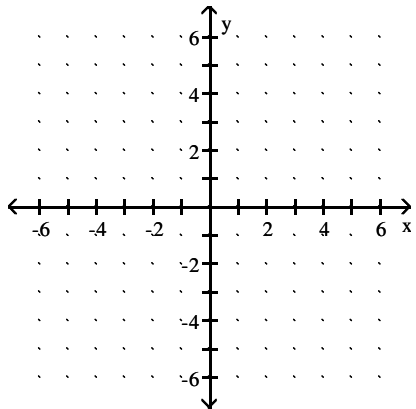


11) $\frac{1}{3}x - y = 1$

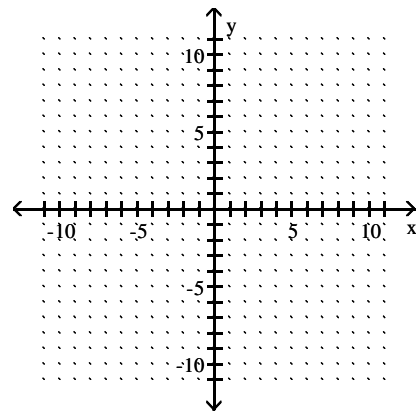
$x = 3$



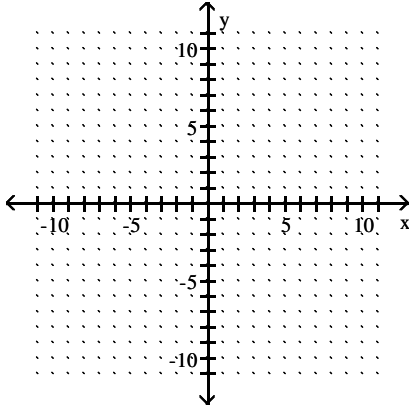
10) $2x + y = -2$
 $5x + 6y = 9$



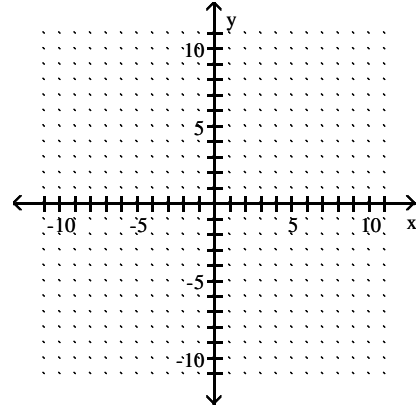
12) $y = x - 1$
 $y = 3x + 5$



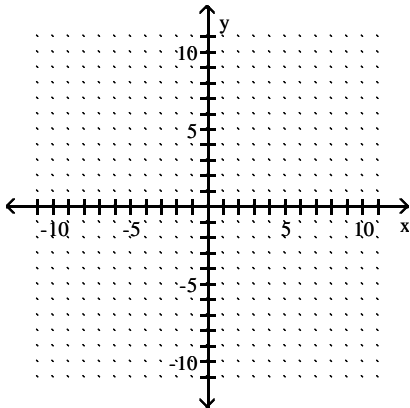
13) $3x + y = 4$
 $2x + y = 1$



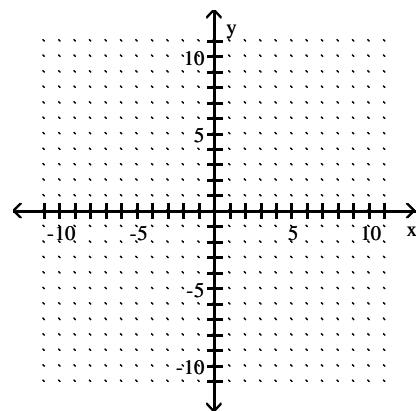
15) $2x - y = 0$
 $x = 2$



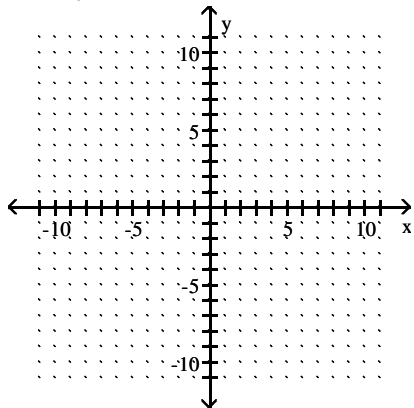
14) $y = -x + 9$
 $y = 3x - 3$



16) $x + \frac{1}{3}y = 3$
 $x = 2$

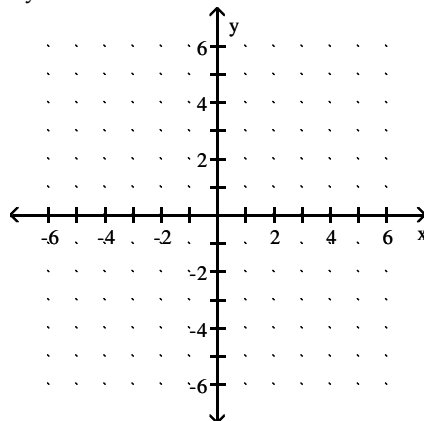


17) $x - 2y = 7$
 $3x + 2y = -3$

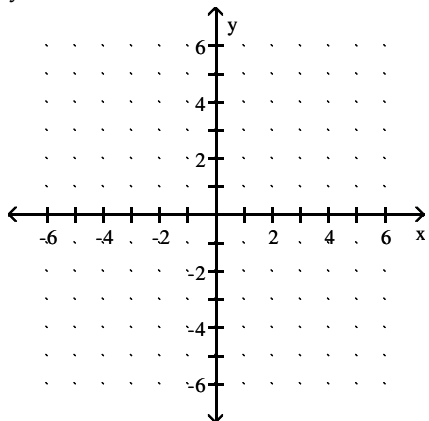


Solve the system by graphing. If there is no solution or an infinite number of solutions, so state.

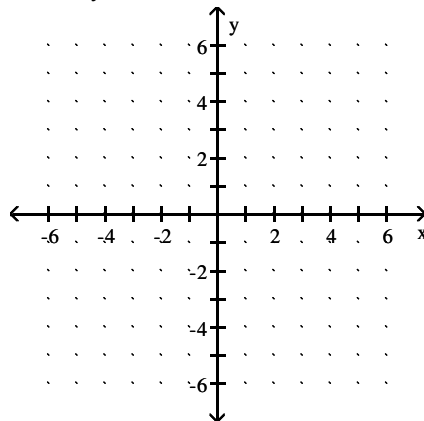
19) $y - 4x = 5$
 $3y = 12x + 15$



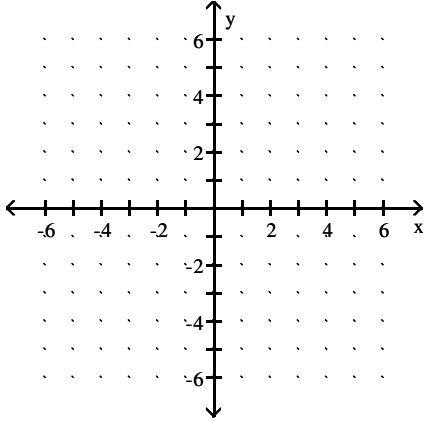
18) $x = 8$
 $y = -7$



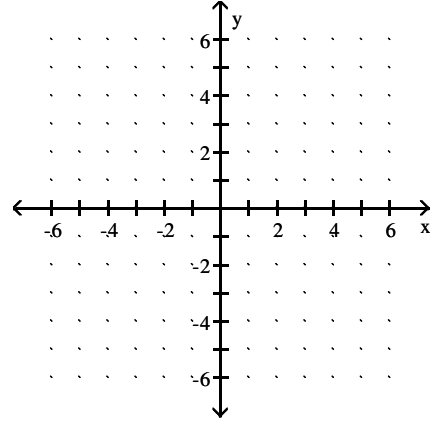
20) $4x + y = 10$
 $16x + 4y = 40$



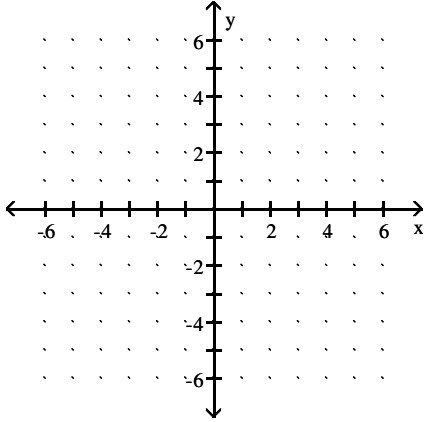
21) $x = -y$
 $y + x = 6$



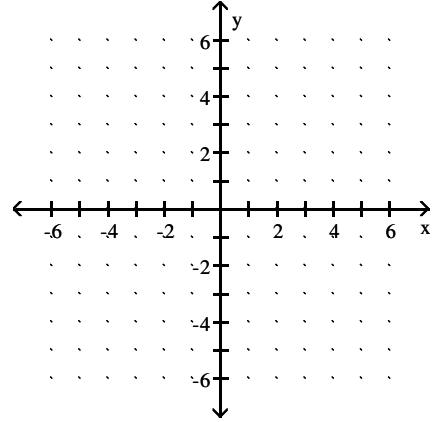
23) $x = 8$
 $x = -5$



22) $2x + y = 1$
 $2x + y = 6$



24) $y = 0$
 $y = -5$



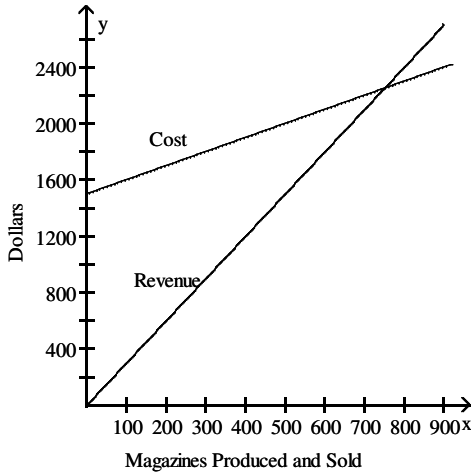
Solve the problem.

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) Andrea is having her yard landscaped. She obtained an estimate from two landscaping companies. Company A gave an estimate of \$230 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

$$c = 230 + 45x$$

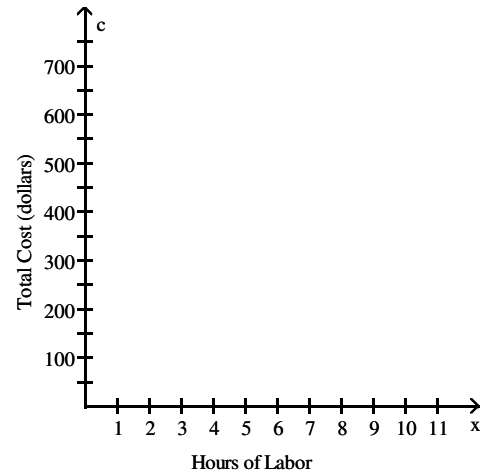
Company A

$$c = 270 + 35x$$

Company B

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

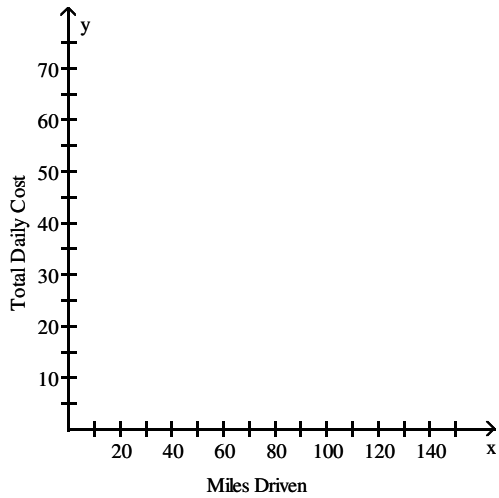
Graph the system. What is the x -coordinate of the intersection point of the graphs? Describe what this x -coordinate means in practical terms.



27) Vicki's car rental company charges \$20 per day plus \$0.25 per mile to rent a car. Joshua's rental company charges \$22 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:

$$\begin{aligned} y &= 0.25x + 20 && \text{Vicki's} \\ y &= 0.20x + 22 && \text{Joshua's} \end{aligned}$$

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



Answer Key

Testname: 05.1V02

- 1) Yes
- 2) No
- 3) Yes
- 4) No
- 5) Yes
- 6) No
- 7) $\{(-4, 3)\}$
- 8) $\{(-1, -4)\}$
- 9) $\{(1, 6)\}$
- 10) $\{(-3, 4)\}$
- 11) $\{(3, 0)\}$
- 12) $\{(-3, -4)\}$
- 13) $\{(3, -5)\}$
- 14) $\{(3, 6)\}$
- 15) $\{(2, 4)\}$
- 16) $\{(2, 3)\}$
- 17) $\{(1, -3)\}$
- 18) $\{(8, -7)\}$
- 19) infinite number of solutions; $\{(x, y) \mid y - 4x = 5\}$ or $\{(x, y) \mid 3y = 12x + 15\}$
- 20) infinite number of solutions; $\{(x, y) \mid 4x + y = 10\}$ or $\{(x, y) \mid 16x + 4y = 40\}$
- 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) 4; for 4 hours of labor, both companies charge the same.
- 27) $\{(40, 30)\}$; Both companies charge \$30 for 40 miles driven.