

**6-1 Skills Practice****Graphing Systems of Equations**

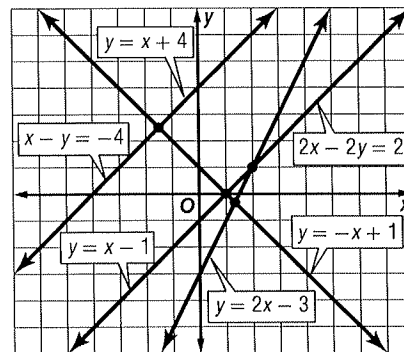
Use the graph at the right to determine whether each system is *consistent* or *inconsistent* and if it is *independent* or *dependent*.

1.  $y = x - 1$   
 $y = -x + 1$

3.  $y = x + 4$   
 $2x - 2y = 2$

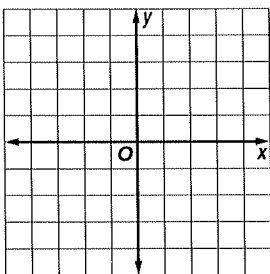
2.  $x - y = -4$   
 $y = x + 4$

4.  $y = 2x - 3$   
 $2x - 2y = 2$

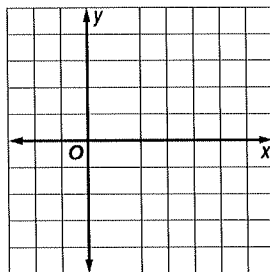


Graph each system and determine the number of solutions that it has. If it has one solution, name it.

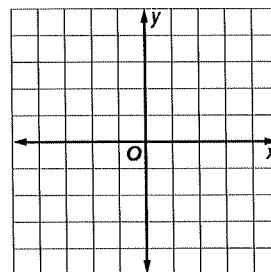
5.  $2x - y = 1$   
 $y = -3$



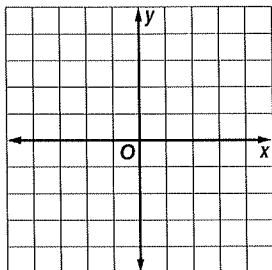
6.  $x = 1$   
 $2x + y = 4$



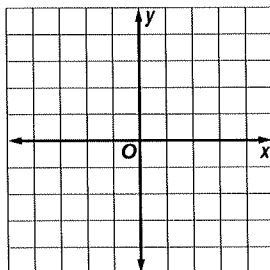
7.  $3x + y = -3$   
 $3x + y = 3$



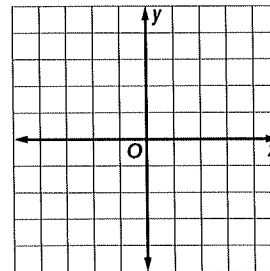
8.  $y = x + 2$   
 $x - y = -2$



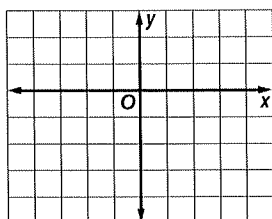
9.  $x + 3y = -3$   
 $x - 3y = -3$



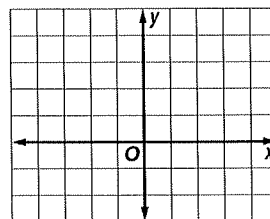
10.  $y - x = -1$   
 $x + y = 3$



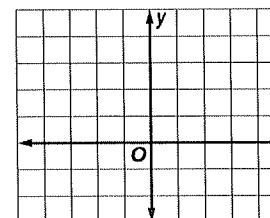
11.  $x - y = 3$   
 $x - 2y = 3$



12.  $x + 2y = 4$   
 $y = -\frac{1}{2}x + 2$



13.  $y = 2x + 3$   
 $3y = 6x - 6$



**6-2 Practice****Substitution**

Use substitution to solve each system of equations.

$$\begin{aligned} 1. \quad y &= 6x \\ 2x + 3y &= -20 \end{aligned}$$

$$\begin{aligned} 2. \quad x &= 3y \\ 3x - 5y &= 12 \end{aligned}$$

$$\begin{aligned} 3. \quad x &= 2y + 7 \\ x &= y + 4 \end{aligned}$$

$$\begin{aligned} 4. \quad y &= 2x - 2 \\ y &= x + 2 \end{aligned}$$

$$\begin{aligned} 5. \quad y &= 2x + 6 \\ 2x - y &= 2 \end{aligned}$$

$$\begin{aligned} 6. \quad 3x + y &= 12 \\ y &= -x - 2 \end{aligned}$$

$$\begin{aligned} 7. \quad x + 2y &= 13 \\ -2x - 3y &= -18 \end{aligned}$$

$$\begin{aligned} 8. \quad x - 2y &= 3 \\ 4x - 8y &= 12 \end{aligned}$$

$$\begin{aligned} 9. \quad x - 5y &= 36 \\ 2x + y &= -16 \end{aligned}$$

$$\begin{aligned} 10. \quad 2x - 3y &= -24 \\ x + 6y &= 18 \end{aligned}$$

$$\begin{aligned} 11. \quad x + 14y &= 84 \\ 2x - 7y &= -7 \end{aligned}$$

$$\begin{aligned} 12. \quad 0.3x - 0.2y &= 0.5 \\ x - 2y &= -5 \end{aligned}$$

$$\begin{aligned} 13. \quad 0.5x + 4y &= -1 \\ x + 2.5y &= 3.5 \end{aligned}$$

$$\begin{aligned} 14. \quad 3x - 2y &= 11 \\ x - \frac{1}{2}y &= 4 \end{aligned}$$

$$\begin{aligned} 15. \quad \frac{1}{2}x + 2y &= 12 \\ x - 2y &= 6 \end{aligned}$$

$$\begin{aligned} 16. \quad \frac{1}{3}x - y &= 3 \\ 2x + y &= 25 \end{aligned}$$

$$\begin{aligned} 17. \quad 4x - 5y &= -7 \\ y &= 5x \end{aligned}$$

$$\begin{aligned} 18. \quad x + 3y &= -4 \\ 2x + 6y &= 5 \end{aligned}$$

- 19. EMPLOYMENT** Kenisha sells athletic shoes part-time at a department store. She can earn either \$500 per month plus a 4% commission on her total sales, or \$400 per month plus a 5% commission on total sales.

- Write a system of equations to represent the situation.
- What is the total price of the athletic shoes Kenisha needs to sell to earn the same income from each pay scale?
- Which is the better offer?

- 20. MOVIE TICKETS** Tickets to a movie cost \$7.25 for adults and \$5.50 for students. A group of friends purchased 8 tickets for \$52.75.

- Write a system of equations to represent the situation.
- How many adult tickets and student tickets were purchased?