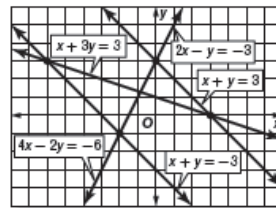


**6-1 Practice****Graphing Systems of Equations**

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



1.  $x + y = 3$   
 $x + y = -3$   
**inconsistent**

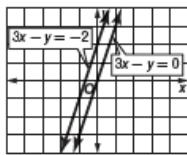
2.  $2x - y = -3$   
 $4x - 2y = -6$   
**consistent and dependent**

3.  $x + 3y = 3$   
 $x + y = -3$   
**consistent and independent**

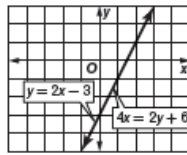
4.  $x + 3y = 3$   
 $2x - y = -3$   
**consistent and independent**

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

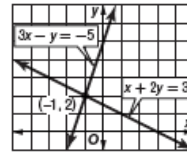
5.  $3x - y = -2$  **no**  
 $3x - y = 0$  **solution**



6.  $y = 2x - 3$  **infinitely**  
 $4x = 2y + 6$  **many**



7.  $x + 2y = 3$  **one;**  
 $3x - y = -5$  **(-1, 2)**

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

Use substitution to solve each system of equations.

1.  $y = 6x$   
 $2x + 3y = -20$  **(-1, -6)**

2.  $x = 3y$   
 $3x - 5y = 12$  **(9, 3)**

3.  $x = 2y + 7$   
 $x = y + 4$  **(1, -3)**

4.  $y = 2x - 2$   
 $y = x + 2$  **(4, 6)**

5.  $y = 2x + 6$   
 $2x - y = 2$  **no solution**

6.  $3x + y = 12$   
 $y = -x - 2$  **(7, -9)**

7.  $x + 2y = 13$  **(-3, 8)**  
 $-2x - 3y = -18$

8.  $x - 2y = 3$  **infinitely**  
 $4x - 8y = 12$  **many**

9.  $x - 5y = 36$  **(-4, -8)**  
 $2x + y = -16$

10.  $2x - 3y = -24$   
 $x + 6y = 18$  **(-6, 4)**

11.  $x + 14y = 84$   
 $2x - 7y = -7$  **(14, 5)**

12.  $0.3x - 0.2y = 0.5$   
 $x - 2y = -5$  **(5, 5)**

13.  $0.5x + 4y = -1$   
 $x + 2.5y = 3.5$  **(6, -1)**

14.  $3x - 2y = 11$   
 $x - \frac{1}{2}y = 4$  **(5, 2)**

15.  $\frac{1}{2}x + 2y = 12$   
 $x - 2y = 6$  **(12, 3)**

16.  $\frac{1}{3}x - y = 3$   
 $2x + y = 25$   
**(12, 1)**

17.  $4x - 5y = -7$   
 $y = 5x$   
**(\frac{1}{3}, \frac{12}{3})**

18.  $x + 3y = -4$   
 $2x + 6y = 5$   
**no solution**

**6-3 Practice****Elimination Using Addition and Subtraction**

Use elimination to solve each system of equations.

$$\begin{aligned}1. \quad & x - y = 1 \\ & x + y = -9 \\ & (-4, -5)\end{aligned}$$

$$\begin{aligned}2. \quad & p + q = -2 \\ & p - q = 8 \\ & (3, -5)\end{aligned}$$

$$\begin{aligned}3. \quad & 4x + y = 23 \\ & 3x - y = 12 \\ & (5, 3)\end{aligned}$$

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

$$\begin{aligned}5. \quad & 3x + 2y = -1 \\ & 4x + 2y = -6 \\ & (-5, 7)\end{aligned}$$

$$\begin{aligned}6. \quad & 5x + 3y = 22 \\ & 5x - 2y = 2 \\ & (2, 4)\end{aligned}$$

$$\begin{aligned}7. \quad & 5x + 2y = 7 \\ & -2x + 2y = -14 \\ & (3, -4)\end{aligned}$$

$$\begin{aligned}8. \quad & 3x - 9y = -12 \\ & 3x - 15y = -6 \\ & (-7, -1)\end{aligned}$$

$$\begin{aligned}9. \quad & -4c - 2d = -2 \\ & 2c - 2d = -14 \\ & (-2, 5)\end{aligned}$$

$$\begin{aligned}10. \quad & 2x - 6y = 6 \\ & 2x + 3y = 24 \\ & (9, 2)\end{aligned}$$

$$\begin{aligned}11. \quad & 7x + 2y = 2 \\ & 7x - 2y = -30 \\ & (-2, 8)\end{aligned}$$

$$\begin{aligned}12. \quad & 4.25x - 1.28y = -9.2 \\ & x + 1.28y = 17.6 \\ & (1.6, 12.5)\end{aligned}$$

$$\begin{aligned}13. \quad & 2x + 4y = 10 \\ & x - 4y = -2.5 \\ & (2.5, 1.25)\end{aligned}$$

$$\begin{aligned}14. \quad & 2.5x + y = 10.7 \\ & 2.5x + 2y = 12.9 \\ & (3.4, 2.2)\end{aligned}$$

$$\begin{aligned}15. \quad & 6m - 8n = 3 \\ & 2m - 8n = -3 \\ & \left(1\frac{1}{2}, \frac{3}{4}\right)\end{aligned}$$

$$\begin{aligned}16. \quad & 4a + b = 2 \\ & 4a + 3b = 10 \\ & \left(-\frac{1}{2}, 4\right)\end{aligned}$$

$$\begin{aligned}17. \quad & -\frac{1}{3}x - \frac{4}{3}y = -2 \\ & \frac{1}{3}x - \frac{2}{3}y = 4 \\ & (10, -1)\end{aligned}$$

$$\begin{aligned}18. \quad & \frac{3}{4}x - \frac{1}{2}y = 8 \\ & \frac{3}{2}x + \frac{1}{2}y = 19 \\ & (12, 2)\end{aligned}$$