Solving Systems of Linear Equations by Substitution

Solve by substitution. Tell whether the system has *no solution*, *one solution* or *infinitely many solutions*.

1. $\begin{cases} y = x + 4 \\ y = 3x \end{cases}$

2. $\begin{cases} x = -2y + 1 \\ x = y - 5 \end{cases}$

3. $\begin{cases} y = 5x + 5 \\ y = 15x - 1 \end{cases}$

4. $\begin{cases} y = x - 7 \\ 2x + y = 8 \end{cases}$

5. $\begin{cases} y = x - 4 \\ -x + y = -4 \end{cases}$

6. $\begin{cases} x + 2y = 200 \\ x = y + 50 \end{cases}$

7. $\begin{cases} 2x + y = 3 \\ y = 2x + 1 \end{cases}$

8. $\begin{cases} y = \frac{3}{2}x \\ 6x - 4y = 1 \end{cases}$

9. $\begin{cases} 3x - y = 30 \\ y = -x + 14 \end{cases}$

10. $\begin{cases} y = \frac{1}{2}x + 2 \\ x - 2y = -4 \end{cases}$

11. $\begin{cases} x = -6y + 15 \\ -x + 4y = 5 \end{cases}$

12. $\begin{cases} y = 2x - 3 \\ -2x + y = -3 \end{cases}$