

**Ejercicio 7**

Resuelve los siguientes sistemas por el método de sustitución:

$$\left. \begin{array}{l} \text{a) } 10x - 9y = -84 \\ -2x + y = 12 \end{array} \right\} \qquad \qquad \qquad \left. \begin{array}{l} \text{b) } 5x - y = 12 \\ x + 3y = 12 \end{array} \right\}$$

**Solución.**

a)

$$\left\{ \begin{array}{l} 10x - 9y = -84 \implies 10x - 9 \cdot (12 + 2x) = -84 \\ \implies 10x - 108 - 18x = -84 \implies -8x = 24 \implies \boxed{x = -3} \\ -2x + y = 12 \implies y = 12 + 2x \end{array} \right.$$

$$\implies y = 12 + 2x = 12 + 2 \cdot (-3) \implies \boxed{y = 6}$$

b)

$$\left\{ \begin{array}{l} 5x - y = 12 \implies y = 5x - 12 \\ x + 3y = 12 \implies x + 3 \cdot (5x - 12) = 12 \implies x + 15x - 36 = 12 \implies \boxed{x = 3} \end{array} \right.$$

$$\implies y = 5x - 12 = 5 \cdot 3 - 12 \implies \boxed{y = 3}$$