

Sesión 6

→ Ejercicio A1:

$$\begin{cases} \frac{x+y}{2} = x-1 \rightarrow x+y = 2x-2 \\ \frac{x-y}{2} = y+1 \rightarrow x-y = 2y+2 \end{cases}$$

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

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

Método de sustitución

$$\begin{cases} -2x+x = -2-y \rightarrow -x = -2-y \\ -2y-y = 2-x \end{cases}$$

$$x = 2+y$$

$$x = 2+0$$

$$x = 2$$

$$-3y = 2 - (2+y)$$

$$-3y = 2 - 2 - y$$

$$-3y + y = 2 - 2$$

$$-2y = 0$$

$$y = 0$$

→ Ejercicio A2:

$$\begin{cases} \frac{x}{2} + \frac{y}{3} = 4 \rightarrow 3x + 2y = 24 \\ \frac{x}{3} + y = 1 \rightarrow x + 3y = 3 \end{cases}$$

Método de reducción

$$\begin{cases} 3x + 2y = 24 \\ x + 3y = 3 \rightarrow x + 3\left(-\frac{15}{7}\right) = 3 \end{cases}$$

$$\begin{cases} 3x + 2y = 24 \\ -3x - 9y = 9 \end{cases} \quad \begin{aligned} 7x - 45 &= +21 \\ 7x &= +21 + 45 \\ 7x &= 66 \end{aligned}$$

$$-7y = 15$$

$$y = -\frac{15}{7}$$

$$7x = 66$$

$$x = \frac{66}{7}$$

→ Ejercicio B1:

$$\begin{cases} \frac{x-y}{3} - \frac{y}{4} = \frac{1}{24} \rightarrow 8x - 8y - 6y = 1 \\ \frac{x+y}{2} - \frac{5y}{3} = -\frac{1}{12} \rightarrow 6x + 6y - 20y = -1 \end{cases}$$

Método de reducción

$$\begin{cases} 8x - 8y - 6y = 1 \\ 6x + 6y - 20y = -1 \rightarrow 6 \cdot 1 + 6y - 20y = -1 \end{cases}$$

$$\begin{cases} 8x - 14y = 1 \\ 6x - 14y = -1 \end{cases} \quad \begin{aligned} 6 + 6y - 20y &= -1 \\ -14y &= -1 - 6 \\ -14y &= -7 \end{aligned}$$

$$\begin{cases} 8x - 14y = 1 \\ -6x + 14y = 1 \end{cases}$$

$$y = \frac{7}{14}$$

$$2x = 2$$

$$x = 1$$

$$y = \frac{1}{2}$$