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

$$\begin{aligned} \rightarrow 6x + 2y + x &= 4x + 4 \\ \rightarrow 6x - 12 + y &= 2y - 2 + 3 \end{aligned} \quad \left. \begin{aligned} &\rightarrow 6x + 2y + x - 4x = 4 \\ &\rightarrow 6x + y - 2y = -2 + 3 + 12 \end{aligned} \right\}$$

$$\begin{aligned} \rightarrow 3x + 2y &= 4 \\ \rightarrow 6x - y &= 13 \end{aligned} \quad \left. \begin{aligned} &\text{Ahora ya puedo resolverlo.} \\ &\text{SUSTITUCIÓN.} \end{aligned} \right\}$$

$$\hookrightarrow 6x - 13 = y \rightarrow 3x + 2(6x - 13) = 4$$

$$3x + 12x - 26 = 4$$

$$15x = 4 + 26$$

$$15x = 30$$

$$\boxed{x = \frac{30}{15} = 2}$$



$$y = 6 - 2 - 13$$

$$\boxed{y = 12 - 13 = -1}$$

Comprobación

$$I) \quad 2(3 \cdot 2 - 1) + 2 = 4(2 + 1)$$

$$2 \cdot (5) + 2 = 4 \cdot 3 \quad (SI)$$

$$II) \quad 6(\cancel{2} - 2) - 1 = 2(-1 - 1) + 3$$

$$-1 = 2 \cdot (-2) + 3$$

$$-1 = -4 + 3 \quad (SI)$$

$$b) \left. \begin{aligned} 5(2x+1) &= 4(x-y)-1 \\ \frac{x-y}{2} &= \frac{x+5}{3} \end{aligned} \right\}$$

$$\begin{aligned} \text{I)} \quad 10x+5 &= 4x-4y-1 \\ 10x-4x+4y &= -1-5 \\ 6x+4y &= -6 \end{aligned}$$

$$\begin{aligned} \text{II)} \quad \frac{3x-3y}{6} &= \frac{2x+10}{6} \\ 3x-3y &= 2x+10 \\ 3x-3y-2x &= 10 \\ x-3y &= 10 \end{aligned}$$

$$\left. \begin{aligned} 6x+4y &= -6 \\ x-3y &= 10 \end{aligned} \right\} \xrightarrow{\text{SUSTITUCIÓN}} \begin{aligned} & \rightarrow x = 10+3y \\ & \rightarrow 6(10+3y)+4y = -6 \\ & 60+18y+4y = -6 \\ & 18y+4y = -6-60 \\ & 22y = -66 \\ & \boxed{y = \frac{-66}{22} = -3} \end{aligned}$$

$$\begin{aligned} & \downarrow \\ & x = 10+3 \cdot (-3) \\ & \boxed{x = 10-9 = 1} \end{aligned}$$

Comprob.

$$\begin{aligned} \text{I)} \quad 5(2 \cdot 1 + 1) &= 4(1+3)-1 \\ 5 \cdot 3 &= 4 \cdot 4 - 1 \quad (\text{SI}) \end{aligned}$$

$$\begin{aligned} \text{II)} \quad \frac{1+3}{2} &= \frac{1+5}{3} \\ 2 &= 2 \quad (\text{SI}) \end{aligned}$$

$$c) \left. \begin{aligned} \frac{x-4}{2} - \frac{y-5}{3} &= 0 \\ \frac{x}{3} + \frac{y}{4} &= 2x - y \end{aligned} \right\}$$

$$I) \frac{3x-12}{6} - \frac{2y-10}{6} = \frac{0}{6}$$

$$3x-12-2y+10=0$$

$$3x-2y=12-10$$

$$3x-2y=2$$

$$II) \frac{4x}{12} + \frac{3y}{12} = \frac{24x}{12} - \frac{12y}{12}$$

$$4x+3y=24x-12y$$

$$4x+3y-24x+12y=0$$

$$-20x+15y=0$$

↪ Puedo : 5 para simplificarla

$$-4x+3y=0$$

$$\left. \begin{aligned} 3x-2y &= 2 \\ -4x+3y &= 0 \end{aligned} \right\} \begin{aligned} \cdot 3 &\rightarrow 9x-6y=6 \\ \cdot 2 &\rightarrow -8x+6y=0 \end{aligned} \}$$

REDUCCIÓN

$$\boxed{x=6}$$



$$3 \cdot 6 - 2y = 2$$

$$-2y = 2 - 18$$

$$-2y = -16$$

$$\boxed{y = \frac{-16}{-2} = 8}$$

Comp.

$$I) \frac{6-4}{2} - \frac{8-5}{3} = 0$$

$$1 - 1 = 0 \text{ (SI)}$$

$$II) \frac{6}{3} + \frac{8}{4} = 2 \cdot 6 - 8$$

$$2 + 2 = 12 - 8 \text{ (SI)}$$