

TP 4

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$$\begin{aligned}
 c) -\frac{x+1}{5} - \frac{4x+2}{3} &= \frac{x-1}{6} \\
 \frac{x}{5} + \frac{1}{5} - \frac{4x}{3} - \frac{2}{3} &= \frac{x}{6} - \frac{1}{6} \\
 x\left(\frac{1}{5} - \frac{4}{3}\right) + \frac{1}{5} - \frac{2}{3} &= \frac{x}{6} - \frac{1}{6} \\
 \frac{x(3-20)}{15} + \frac{3-10}{15} &= \frac{x}{6} - \frac{1}{6} \\
 \frac{x}{6} + \cancel{\frac{1}{5}} - \frac{17}{15} + \cancel{-\frac{7}{15}} &= \frac{x}{6} - \frac{1}{6} + \frac{3}{15} - \cancel{\frac{x}{6}} \\
 -x\left(\frac{15+34}{30}\right) &= \frac{-5+14}{30} \\
 -x \cdot \frac{39}{30} &= \frac{9}{30} \\
 x = \frac{9}{30} &= -3 \cdot \cancel{\frac{1}{3}} = -\frac{3}{13} \times \boxed{\frac{-3}{13}}
 \end{aligned}$$

verif.

$$\begin{aligned}
 \frac{\left(-\frac{3}{13}\right)+1}{5} - \frac{4 \cdot \left(-\frac{3}{13}\right)+2}{3} &= \frac{-3}{13} - 1 \\
 \frac{-3+13}{13} - \frac{\cancel{4} \cdot \cancel{2} \cancel{6}}{\cancel{13}} &= \frac{-3-13}{13} \\
 \frac{2}{13} - \frac{14}{39} &= \frac{-8}{39} \\
 \frac{2}{13} - \frac{14}{39} &= \frac{-8}{39} \\
 \frac{6-14}{39} &= -\frac{8}{39} \\
 -\frac{8}{39} &= -\frac{8}{39}
 \end{aligned}$$

$$d) \frac{8x-1}{8} = \frac{2x+3}{3}$$

$$\cancel{\frac{-2x}{5}} + \frac{8x}{5} - \frac{1}{5} = \frac{2x}{3} + \frac{3}{3} + \frac{1}{5} - \frac{8x}{3}$$

$$\frac{-2x}{3} + \frac{8x}{5} = \frac{2x}{3} + \frac{1}{5}$$

$$2x\left(\frac{-1}{3} + \frac{4}{5}\right) = 1 + \frac{1}{5}$$

$$2x\left(-\frac{5}{15} + \frac{12}{15}\right) = \frac{5+1}{5}$$

$$2x \cdot \frac{7}{15} = \frac{6}{5}$$

$$2x \cdot \frac{14}{15} + 1 = \frac{6}{5} \cdot 3$$

$$x = \frac{18}{14} = \frac{9}{7} = 1\frac{2}{7}$$

Verif.

$$\frac{8 \cdot \frac{9}{7} - 1}{7} = \frac{8 \cdot 1}{7} + 3$$

$$\frac{72 - 7}{7} = \frac{8 + 21}{7}$$

$$\frac{65}{7} = \frac{29}{7} + \frac{1}{3}$$

$$\frac{13}{7} = \frac{13}{7}$$

IV. K.1

$$\textcircled{a}) \begin{cases} 3x + 5y = 3 & (1) \\ 2x + 3y = 1 & (2) \end{cases}$$

$$\frac{2}{3}(3x + 5y) - 1 = 3 \cdot \frac{2}{3}$$

$$2x + \frac{10}{3}y = 2$$

$$2x + 3y = 1$$

$$\frac{10}{3}y - 3y = 1$$

$$y - \left(\frac{10}{3} - 3\right) = 1$$

$$y + \left(\frac{10-9}{3}\right) = 1$$

$$2 \cdot y = \frac{1}{3} = 1 \cdot 3$$

$$y = 3$$

Verif.

$$3(-4) + 5(+3) = 3$$

$$-12 - 15 = 3$$

$$+3 = 3$$

$$2(-9) + 3(3) = 1$$

$$-18 + 9 = 1$$

$$1 = 1$$

Neufang:

$$\textcircled{1} \quad 3x + 5y = 3$$

$$3x + 5 \cdot 3 = 3$$

$$3x = 3 - 15$$

$$3x = -12$$

$$x = -4$$

$$\boxed{x = -4}$$

IV.K.1.b.

$$b) -\frac{2}{\sqrt{x}} - \frac{1}{\sqrt{y}} = \frac{2}{3}$$

$$\frac{1}{\sqrt{x}} + \frac{2}{\sqrt{y}} = \frac{7}{6}$$

$$2A - b = \frac{2}{3}$$

$$A + 2b = \frac{7}{6}$$

$$-2A - 2b = -2 - 2A$$

$$5A + b = \left(\frac{7}{3} - 2A\right) - (-1)$$

$$b = 2A - \frac{2}{3}$$

$$A + 2b = \frac{7}{6}$$

$$A + 2 \cdot \left(2A - \frac{2}{3}\right) = \frac{7}{6}$$

$$+\frac{14}{3}A + 4A - \frac{4}{3} = \frac{7}{6} + \frac{4}{3}$$

$$8A = \frac{2}{3} \Rightarrow A = \frac{1}{2}$$

$$b = 2 \cdot \frac{1}{2} - \frac{2}{3}$$

$$b = 1 - \frac{2}{3}$$

$$b = \frac{3-2}{3} = \frac{1}{3}$$

AUX

$$\boxed{A = \sqrt{x}}$$

$$\boxed{b = \sqrt{y}}$$

$$\frac{7}{6} + \frac{4}{3}$$

$$\frac{7+8}{6} = \frac{15}{6} \quad \text{X.S.}$$

$$A = \frac{1}{\sqrt{x}} = (\sqrt{x})^2 = \left(\frac{1}{2}\right)^2 = \left(\frac{1}{\frac{1}{2}}\right)^2 = \boxed{4}$$

$$b = \frac{1}{\sqrt{y}} = (\sqrt{y})^2 = \left(\frac{1}{\sqrt{3}}\right)^2 = \left(\frac{1}{\frac{1}{\sqrt{3}}}\right)^2 = \boxed{9}$$

Verificación

$$\frac{2}{\sqrt{x}} - \frac{1}{\sqrt{y}} = \frac{2}{3}$$

$$\frac{2}{\sqrt{4}} - \frac{1}{\sqrt{9}} = \frac{2}{3}$$

$$\frac{2}{2} - \frac{1}{3} = \frac{2}{3}$$

$$\frac{\frac{3-1}{3}}{\frac{2}{3}} = \frac{2}{3}$$

$$\frac{1}{\sqrt{x}} + \frac{2}{\sqrt{y}} = \frac{7}{6}$$

$$\frac{1}{\sqrt{4}} + \frac{2}{\sqrt{9}} = \frac{7}{6}$$

$$\frac{1}{2} + \frac{2}{3} = \frac{7}{6}$$

$$\frac{3+4}{6}$$

$$\frac{7}{6} = \frac{7}{6}$$

IV. K. 2

$$x + y = 45000$$

$$10x + 15y = 495000$$

$$(x = 45000 - y)$$

$$10(45000 - y) + 15 \cdot y = 495000$$

$$450000 - 10x + 15y = 495000$$

$$5y = 45000$$

$$y = 45000 : 5 = 9000$$

$$x = 45000 - 9000 = 36000$$

Venir.

$$10x + 15y = 495000$$

$$10 \cdot 36000 + 15 \cdot 9000$$

$$36000 + 135000 = \boxed{495000}$$

✓
Kubik