

	Cantidad (kg)	Precio (€/kg)	Coste (€)
Cafe	60	7,20	432
Cafe sup.	x	9,60	9,60 x
Mezcla	60+x	8,70	8,70(60+x)

$$432 + 9,60x = 8,70(60+x)$$

$$432 + 9,6x = 522 + 8,7x$$

$$9,6x - 8,7x = 522 - 432$$

$$0,9x = 90$$

$$x = \frac{90}{0,9} = \boxed{100 \text{ kg}}$$

6) a) $3x - 2(x+3) = x - 3(x+1)$ Solución: $x=1$

$$3x - 2x - 6 = x - 3x - 3;$$

$$x + 3x - x = 6 - 3;$$

$$3x = 3; \boxed{x=1}$$

b) $4 + x - 4(1-x) + 5(2+x) = 0$ Solución $x=-1$

$$4 + x - 4 + 4x + 10 + 5x = 0$$

$$10x + 10 = 0 \rightarrow 10x = -10$$

$$x = -1$$

c) $2x + 7 - 2(x-1) = 3(x+3)$ Solución $x=0$

$$2x + 7 - 2x + 2 = 3x + 9$$

$$2x - 2x - 3x = 9 - 7 - 2$$

$$-3x = 0$$

$$x = 0$$

d) $4(2x-7) - 3(3x+1) = 2 - (7-x)$ Solución $x=-13$

$$8x - 28 - 9x - 3 = 2 - 7 + x$$

$$8x - 9x - x = 2 - 7 + 28 + 3$$

$$-2x = 26$$

$$x = \frac{26}{-2} = -13$$

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$$a) \frac{(5x-4)(5x+4)}{4} = \frac{(3x-1)^2 - 9}{2}$$

Solución

$$x_1 = 0$$

$$x_2 = -\frac{12}{7}$$

$$4 \left(\frac{(5x-4)(5x+4)}{4} = \frac{2(3x-1)^2 - 18}{4} \right)$$

$$(5x-4)(5x+4) = 2(3x-1)^2 - 18$$

$$25x^2 - 16 = 2(9x^2 - 6x + 1) - 18$$

$$25x^2 - 16 = 18x^2 - 12x + 2 - 18$$

$$25x^2 - 16 - 18x^2 + 12x - 2 + 18 = 0$$

$$7x^2 + 12x = 0$$

$$(7x+12) \cdot x = 0 \begin{cases} x_1 = 0 \\ 7x+12=0; 7x=-12; x_2 = -\frac{12}{7} \end{cases}$$

$$b) \frac{x}{3}(x-1) - \frac{x}{4}(x+1) + \frac{3x+4}{12} = 0$$

Solución

$x=2$ es
doble

$$\frac{4(x^2-x)}{12} - \frac{3(x^2+x)}{12} + \frac{3x+4}{12} = 0$$

$$4x^2 - 4x - 3x^2 - 3x + 3x + 4 = 0$$

$$x^2 - 4x + 4 = 0$$

$$x = \frac{+4 \pm \sqrt{-16 - 16}}{2} = \frac{+4 \pm \sqrt{0}}{2} = \frac{+4}{2} = 2 \text{ solución doble.}$$

$$c) \frac{(x-1)(x+2)}{12} - \frac{(x+1)(x-2)}{6} - 1 = \frac{x-3}{3}$$

Sol

$$x_1 = +1$$

$$x_2 = -2$$