

$$\frac{4x}{x+2} + \frac{x}{x-2} = \frac{14}{3}$$

$$\frac{4x(x-2) + x(x+2)}{(x+2)(x-2)} = \frac{14}{3}$$

$$\frac{4x^2 - 8x + x^2 + 2x}{x^2 - \cancel{2x} + \cancel{2x} - 4} = \frac{14}{3}$$

$$\frac{5x^2 - 6x}{x^2 - 4} = \frac{14}{3}$$

$$3(5x^2 - 6x) = 14(x^2 - 4)$$

$$15x^2 - 18x = 14x^2 - 56$$

$$x^2 - 18x + 56 = 0$$

$$x = \frac{-(-18) \pm \sqrt{(-18)^2 - 4 \cdot 1 \cdot 56}}{2 \cdot 1} = \begin{cases} 4 & \text{solución} \\ 14 & \text{solución} \end{cases}$$

COMPROBAR:

$$x = 4 \Rightarrow \frac{4 \cdot 4}{4+2} + \frac{4}{4-2} = \frac{16}{6} + \frac{4}{2} = \frac{16+12}{6} = \frac{28}{6} = \left(\frac{14}{3}\right) \checkmark$$

$$x = 14 \Rightarrow \frac{4 \cdot 14}{14+2} + \frac{14}{14-2} = \frac{56}{16} + \frac{14}{12} = \frac{168+56}{48} = \frac{224}{48} = \left(\frac{14}{3}\right) \checkmark$$