

1263

$$\frac{3}{x+2} = 2 - \frac{6}{x}$$

Definitionsvillkor: $x \neq 0$, $x \neq -2$

Multiplitera VL och HL med MGN = $x(x+2)$:

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

$$3x = 2x(x+2) - \frac{6}{\cancel{x}} \cancel{x} (x+2)$$

$$3x = 2x^2 + 4x - 6(x+2)$$

$$3x = 2x^2 + 4x - 6x - 12$$

$$2x^2 - 5x - 12 = 0$$

$$x^2 - \frac{5}{2}x - 6 = 0$$

$$x = \frac{5}{4} \pm \sqrt{\frac{25}{16} + \frac{6 \cdot 16}{16}}$$

$$x = \frac{5}{4} \pm \sqrt{\frac{121}{16}}$$

$$x = \frac{5}{4} \pm \frac{11}{4}$$

$$x_1 = -\frac{6}{4} = -1,5$$

$$x_2 = \frac{16}{4} = 4$$

Svar: $x_1 = -1,5$, $x_2 = 4$