

# Bruchtermgleichungen mit $\mathbb{L} = \{ \}$

## Beispiel 1

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

$$x \neq 2$$

$$\frac{x-5}{x-2} = \frac{1}{1} - \frac{x+1}{x-2} \quad | \cdot (x-2)$$

$$x-5 = x-2 - (x+1)$$

$$x-5 = x-2-x-1$$

$$x-5 = -3 \quad | +5$$

$$\underline{x = 2}$$

$$\Rightarrow \underline{\underline{L = \{ \}}}$$

## Beispiel 2

$$\frac{2x}{x^2 - 4} = \frac{1}{x} + \frac{1}{x+2}$$

$$x \neq 2; -2; 0$$

$$\frac{2x}{(x+2) \cdot (x-2)} = \frac{1}{x} + \frac{1}{x+2} \quad \left| \cdot (x+2) \right.$$
$$\left| \cdot (x-2) \right.$$
$$\left| \cdot x \right.$$

$$2x \cdot x = (x+2) \cdot (x-2) + x \cdot (x-2)$$

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

$$2x^2 = 2x^2 - 4 - 2x \quad \left| -2x^2 \right.$$

$$0 = -4 - 2x \quad \left| +2x \right.$$

$$2x = -4 \quad \left| :2 \right.$$

$$\underline{x = -2}$$

$$\Rightarrow \underline{\underline{L = \{ \}}}$$