

$$1 \quad \frac{2}{x} = \frac{x-3}{3x} - \frac{x+5}{4x} \quad | \cdot 12x$$

$$\frac{12x \cdot 2}{x} = \frac{12x \cdot (x-3)}{3x} - \frac{12x \cdot (x+5)}{4x} \quad | \text{ kürzen!}$$

$$12 \cdot 2 = 4(x-3) - 3(x+5)$$

$$24 = 4x - 12 - 3x - 15$$

$$24 = x - 27$$

$$\mathbf{51 = x}$$

$$2 \quad \frac{1}{x} + \frac{2x+5}{x+6} = 2 \quad | \cdot x(x+6)$$

$$\frac{x(x+6) \cdot 1}{x} + \frac{x(x+6) \cdot (2x+5)}{x+6} = x(x+6) \cdot 2$$

$$x+6 + x(2x+5) = 2x(x+6)$$

$$x+6 + 2x^2 + 5x = 2x^2 + 12x$$

$$2x^2 + 6x + 6 = 2x^2 + 12x \quad | - 2x^2 - 6x$$

$$6 = 6x$$

$$\mathbf{1 = x}$$

$$3 \quad \frac{2}{x-2} = \frac{1}{3} \quad | \cdot 3(x-2)$$

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

$$6 = x - 2$$

$$\mathbf{8 = x}$$

$$4 \quad \frac{7}{x-4} - \frac{2}{x-4} = 1 \quad | \cdot (x-4)$$

$$\frac{7 \cdot (x-4)}{x-4} - \frac{2 \cdot (x-4)}{x-4} = 1 \cdot (x-4)$$

$$7 - 2 = x - 4$$

$$\mathbf{9 = x}$$

$$5 \quad \frac{5}{x+1} = \frac{3}{x+1} + \frac{1}{2} \quad | \cdot 2(x+1)$$

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

$$10 = 6 + x + 1$$

$$\mathbf{3 = x}$$

$$6 \quad \frac{x+4}{2(x-1)} - \frac{5(x-3)}{2(x-1)} - \frac{4}{2(x-1)} = 0 \quad | \cdot 2(x-1)$$

$$\frac{2(x-1)(x+4)}{2(x-1)} - \frac{2(x-1) \cdot 5(x-3)}{2(x-1)} - \frac{4 \cdot 2(x-1)}{2(x-1)} = 0 \cdot 2(x-1)$$

$$x+4 - 5(x-3) - 4 = 0$$

$$x+4 - 5x + 15 - 4 = 0$$

$$15 - 4x = 0$$

$$15 = 4x$$

$$\frac{15}{4} = x$$

$$7 \quad \frac{5(x-3)}{12x} - \frac{2(x+1)}{15x} = 1 \quad | \cdot 60x$$

$$\frac{60x \cdot 5(x-3)}{12x} - \frac{60x \cdot 2(x+1)}{15x} = 60x \cdot 1$$

$$25(x-3) - 8(x+1) = 60x$$

$$25x - 75 - 8x - 8 = 60x$$

$$17x - 83 = 60x$$

$$-83 = 43x$$

$$-\frac{83}{43} = x$$

$$8 \quad \frac{1}{4} - \frac{1}{2(x+5)} = \frac{3}{x+5} \quad | \cdot 4(x+5)$$

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

$$x+5 - 2 = 12$$

$$x+3 = 12$$

$$\mathbf{x = 9}$$