

Löse die Gleichung:

$$10(x+3) + \frac{2-40x}{4} = 50 \frac{1}{2} - \frac{5x+20}{2}$$

$$10x + 30 + \frac{2-40x}{4} = 50,5 - \frac{5x+20}{2} \quad / \text{ Hauptnenner} \cdot 4$$

$$40x + 120 + 2 - 40x = 202 - 2(5x + 20)$$

$$122 = 202 - 10x - 40$$

$$122 = 162 - 10x \quad / + 10x$$

$$10x + 122 = 162 \quad / - 122$$

$$10x = 40 \quad / : 10$$

$$\underline{\underline{x = 4}}$$

$$3,5 - 3\left(\frac{3}{4x} - \frac{5}{6x}\right) = \frac{1}{2x} + 1\frac{7}{8} : \frac{3}{4}$$

$$3,5 - \frac{9}{4x} + \frac{15}{6x} = \frac{1}{2x} + 2,5$$

$$3,5 - \frac{9}{4x} + \frac{5}{2x} = \frac{1}{2x} + 2,5 \quad / \text{ Hauptnenner} \cdot 4x$$

$$14x - 9 + 10 = 2 + 10x$$

$$14x + 1 = 2 + 10x \quad / - 10x$$

$$4x + 1 = 2 \quad / - 1$$

$$4x = 1 \quad / : 4$$

$$\underline{\underline{x = 0,25}}$$

QA 1995 I/2

$$\frac{3}{8}(12x - 16) - \frac{x}{2} - 12 = \frac{3}{4} - \frac{5}{4}(4 - x)$$

$$4,5x - 6 - \frac{x}{2} - 12 = \frac{3}{4} - 5 + \frac{5x}{4} \quad / \text{Hauptnenner} \cdot 4$$

$$18x - 24 - 2x - 48 = 3 - 20 + 5x$$

$$16x - 72 = -17 + 5x \quad / - 5x$$

$$11x - 72 = -17 \quad / + 72$$

$$11x = 55 \quad / : 11$$

$$\underline{\underline{x = 5}}$$

QA 1995 III/3

$$\frac{3,5}{x} + \frac{4}{x} - 0,5 = \frac{1}{4} - 3\left(\frac{1}{x} - 1\right)$$

$$\frac{3,5}{x} + \frac{4}{x} - 0,5 = \frac{1}{4} - \frac{3}{x} + 3 \quad / \text{Hauptnenner} \cdot 4x$$

$$14 + 16 - 2x = x - 12 + 12x$$

$$30 - 2x = 13x - 12 \quad / + 2x$$

$$30 = 15x - 12 \quad / + 12$$

$$42 = 15x \quad / : 15$$

$$\underline{\underline{2,8 = x}}$$

$$1,2(16x - 8) - 3,6(3x + 9) = 2,4(4x - 16) - 9,6$$

$$19,2x - 9,6 - 10,8x - 32,4 = 9,6x - 38,4 - 9,6$$

$$8,4x - 42 = 9,6x - 48 \quad / - 8,4x$$

$$- 42 = 1,2x - 48 \quad / +48$$

$$6 = 1,2x \quad / : 1,2$$

$$\underline{\underline{5}} = x$$

$$0,75(6x - 32) - 5\left(7 - \frac{1}{3}x\right) = \frac{7x - 39}{3}$$

$$4,5x - 24 - 35 + \frac{5x}{3} = \frac{7x - 39}{3} \quad / \text{Hauptnenner} \cdot 3$$

$$13,5x - 72 - 105 + 5x = 7x - 39$$

$$18,5x - 177 = 7x - 39 \quad / - 7x$$

$$11,5x - 177 = - 39 \quad / + 177$$

$$11,5x = 138 \quad / : 11,5$$

$$\underline{\underline{x}} = 12$$

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

$$\frac{6x}{5} - \frac{4x-8}{3} - 6x + 4x + 8 = 0 \quad / \text{Hauptnenner} \cdot 15$$

$$18x - 5(4x - 8) - 90x + 60x + 120 = 0$$

$$18x - 20x + 40 - 30x + 120 = 0$$

$$-32x + 160 = 0 \quad / + 32x$$

$$160 = 32x \quad / : 32$$

$$\underline{\underline{5}} = x$$

QA 1997 I/4

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

$$\frac{35}{3}x - \frac{56}{3} - \frac{x+3}{2} = \frac{3}{2} + \frac{x}{3} \quad / \text{Hauptnenner} \cdot 6$$

$$70x - 112 - 3(x+3) = 9 + 2x$$

$$70x - 112 - 3x - 9 = 9 + 2x$$

$$67x - 121 = 9 + 2x \quad / + 121$$

$$67x = 130 + 2x \quad / - 2x$$

$$65x = 130 \quad / : 65$$

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

QA 1997 II/2

$$\frac{0,5(24 + 2x)}{x} - \frac{1}{4} \cdot 8 + 6 = \frac{2(5x - 1)}{x} + 2$$

$$\frac{12 + x}{x} - 2 + 6 = \frac{10x - 2}{x} + 2 \quad / \text{ Hauptnenner} \cdot x$$

$$12 + x - 2x + 6x = 10x - 2 + 2x$$

$$12 + 5x = 12x - 2 \quad / - 5x$$

$$12 = 7x - 2 \quad / + 2$$

$$14 = 7x \quad / : 7$$

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

QA 1997 III/1

$$\frac{16}{2}(x - 0,5) - (3x + 2) = 142 \frac{1}{2} : 5 - 4 - 1,5(11 + 6x)$$

$$8x - 4 - 3x - 2 = 28,5 - 4 - 16,5 - 9x$$

$$5x - 6 = 8 - 9x \quad / + 9x$$

$$14x - 6 = 8 \quad / + 6$$

$$14x = 14 \quad / : 14$$

$$\underline{\underline{x = 1}}$$