

Löse die Gleichung:

$$\frac{1}{2}(7-2x) - \frac{2}{5}(2+x) = \frac{1}{5}(x+1) + \frac{1}{2}$$

$$3,5 - x - 0,8 - 0,4x = 0,2x + 0,2 + 0,5 \quad / \text{ Zusammenfassen}$$

$$2,7 - 1,4x = 0,2x + 0,7 \quad / + 1,4x$$

$$2,7 = 1,6x + 0,7 \quad / - 0,7$$

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

$$\underline{\underline{1,25}} = \underline{\underline{x}}$$

$$\frac{2-7x}{12} - \frac{7-8,5x}{30} = \frac{2(1-1,5x)}{5} - \frac{1}{3}\left(x - \frac{1}{2}\right)$$

$$\frac{2-7x}{12} - \frac{7-8,5x}{30} = \frac{2-3x}{5} - \frac{x}{3} + \frac{1}{6} \quad / \text{ Hauptnenner} \cdot 60$$

$$\frac{60(2-7x)}{12} - \frac{60(7-8,5x)}{30} = \frac{60(2-3x)}{5} - \frac{60x}{3} + \frac{60}{6}$$

$$5(2-7x) - 2(7-8,5x) = 12(2-3x) - 20x + 10$$

$$10 - 35x - 14 + 17x = 24 - 36x - 20x + 10$$

$$-4 - 18x = 34 - 56x \quad / + 56x$$

$$-4 + 38x = 38 \quad / + 4$$

$$38x = 38 \quad / : 38$$

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

$$1,5 - 3 \cdot \left(3x - 2 \frac{7}{12}\right) = \frac{2}{3} \cdot \left(4 \frac{1}{8}x - 3,5\right) - \frac{x}{6} \quad (\text{QS} = 1)$$

$$1,5 - 3 \cdot \left(3x - \frac{31}{12}\right) = \frac{2}{3} \cdot \left(\frac{33}{8}x - 3,5\right) - \frac{x}{6}$$

$$1,5 - 9x + \frac{31}{4} = \frac{33}{12}x - \frac{7}{3} - \frac{x}{6} \quad / \text{Hauptnenner} \cdot 12$$

$$18 - 108x + 93 = 33x - 28 - 2x$$

$$111 - 108x = 31x - 28 \quad / + 108x$$

$$139 = 139x - 28 \quad / + 28$$

$$139 = 139x \quad / : 139$$

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

QA 1988 IV/3

$$\frac{3}{4} \cdot (3x - 8) - \frac{x}{8} + 0,625 = 1 - \frac{2x - 6}{5}$$

$$\frac{9}{4}x - 6 - \frac{x}{8} + 0,625 = 1 - \frac{2x - 6}{5} \quad / \text{Hauptnenner} \cdot 40$$

$$90x - 240 - 5x + 25 = 40 - 8(2x - 6)$$

$$85x - 215 = 40 - 16x + 48 \quad / + 16x$$

$$101x - 215 = 88 \quad / + 215$$

$$101x = 303 \quad / : 101$$

$$\underline{\underline{x}} = \underline{\underline{3}}$$

QA 1989 I/1

$$\frac{2}{3}(8x - 17) - 2(x + 8) = \frac{2x - 74}{6} - 3$$

$$\frac{16}{3}x - \frac{34}{3} - 2x - 16 = \frac{2x - 74}{6} - 3$$

/ Hauptnenner · 6

$$32x - 68 - 12x - 96 = 2x - 74 - 18$$

$$20x - 164 = 2x - 92 \quad / - 2x$$

$$18x - 164 = -92 \quad / + 164$$

$$18x = 72 \quad / : 18$$

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

QA 1989 III/2

$$\frac{2-x}{3} - \frac{1}{2}(x+12) = \frac{5x}{6} - 7$$

(QS = 1)

$$\frac{2-x}{3} - \frac{1}{2}x - 6 = \frac{5x}{6} - 7$$

/ Hauptnenner · 6

$$\frac{6(2-x)}{3} - 3x - 36 = 5x - 42$$

$$4 - 2x - 3x - 36 = 5x - 42$$

$$-32 - 5x = 5x - 42 \quad / + 5x$$

$$-32 = 10x - 42 \quad / + 42$$

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

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

QA 1989 V/1

$$\frac{2x-3}{2} + 3,5 = 1\frac{1}{3}(2x+3) - x - \frac{x+6}{2}$$

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

$$\frac{2x-3}{2} + 3,5 = \frac{8}{3}x + 4 - x - \frac{x+6}{2}$$

/ Hauptnenner · 6

$$\frac{6(2x-3)}{2} + 3,5 \cdot 6 = \frac{8}{3}x \cdot 6 + 24 - 6x - \frac{6(x+6)}{2}$$

$$3(2x-3) + 21 = 16x + 24 - 6x - 3(x+6)$$

$$6x - 9 + 21 = 16x + 24 - 6x - 3x - 18$$

$$6x + 12 = 7x + 6 \quad / - 6x$$

$$12 = x + 6 \quad / - 6$$

$$\underline{\underline{6}} = \underline{\underline{x}}$$

QA 1990 II/1

$$\frac{9x + 0,5 \cdot (4 - 6x)}{2} = 7,5 - (x + 1,5) + 2x$$

$$\frac{9x + 2 - 3x}{2} = 7,5 - x - 1,5 + 2x$$

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

/ Hauptnenner · 2

$$6x + 2 = 12 + 2x \quad / - 2x$$

$$4x + 2 = 12 \quad / - 2$$

$$4x = 10 \quad / : 4$$

$$\underline{\underline{x}} = \underline{\underline{2,5}}$$

QA 1990 V/1

$$\frac{1}{6} - \frac{2}{3} \left(\frac{1}{4x} - \frac{1}{2x} - \frac{1}{x} \right) = 1$$

$$\frac{1}{6} - \frac{2}{12x} + \frac{2}{6x} + \frac{2}{3x} = 1$$

/ Hauptnenner · 12x

$$2x - 2 + 4 + 8 = 12x$$

/ - 2x

$$10 = 10x$$

/ : 10

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

QA 1991 I/1

$$7\left(3x + \frac{1}{2}\right) - 6\left(4x - \frac{1}{3}\right) - 5\left(5x + \frac{1}{4}\right) + 2\frac{3}{4} = 0$$

$$21x + 3,5 - 24x + 2 - 25x - 1,25 + 2,75 = 0$$

$$-28x + 7$$

$$= 0$$

/ + 28x

$$7$$

$$= 28x$$

/ : 28

$$\underline{\underline{\frac{1}{4}}} = \underline{\underline{x}}$$

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