

Löse die Gleichung:

$$\frac{x}{5} - 0,5 + \frac{2x+8}{10} = 0,2x + \frac{3x}{18} + 3$$

$$\frac{x}{5} - 0,5 + \frac{2x+8}{10} = 0,2x + \frac{x}{6} + 3 \quad / \cdot 60$$

$$\frac{60x}{5} - 60 \cdot 0,5 + \frac{60(2x+8)}{10} = 60 \cdot 0,2x + \frac{60x}{6} + 3 \cdot 60$$

$$12x - 30 + 6(2x+8) = 12x + 10x + 180$$

$$12x - 30 + 12x + 48 = 22x + 180$$

$$24x + 18 = 22x + 180 \quad / - 22x$$

$$2x + 18 = 180 \quad / - 18$$

$$2x = 162 \quad / : 2$$

$$\underline{\underline{x = 81}}$$

$$\frac{49}{x} - 7\left(\frac{4}{x} - \frac{2}{3}\right) = \frac{63}{x} \cdot 2 - 10\frac{1}{3}$$

$$\frac{49}{x} - \frac{28}{x} + \frac{14}{3} = \frac{126}{x} - \frac{31}{3} \quad / \text{Hauptnenner} \cdot 3x$$

$$3 \cdot 49 - 3 \cdot 28 + 14x = 126 \cdot 3 - 31x$$

$$63 + 14x = 378 - 31x \quad / + 31x$$

$$63 + 45x = 378 \quad - 63$$

$$45x = 315 \quad / : 45$$

$$\underline{\underline{x = 7}}$$

$$4\left(\frac{3}{4}x + 10\right) - (x + 64) = \frac{1}{3}x - \frac{2x - 13}{5} + 23$$

$$3x + 40 - x - 64 = \frac{x}{3} - \frac{2x - 13}{5} + 23 \quad / \text{Hauptnenner} \cdot 15$$

$$45x + 600 - 15x - 960 = 5x - 3(2x - 13) + 345$$

$$30x - 360 = 5x - 6x + 39 + 345$$

$$30x - 360 = -x + 384 \quad / + x$$

$$31x - 360 = 384 \quad / + 360$$

$$31x = 744 \quad / : 31$$

$$\underline{\underline{x = 24}}$$

$$28 - 2\left(\frac{9}{x} + 4\right) = \frac{28 + 4}{2x} + \frac{94}{x} - 12$$

$$28 - \frac{18}{x} - 8 = \frac{28 + 4}{2x} + \frac{94}{x} - 12 \quad / \text{Hauptnenner} \cdot 2x$$

$$56x - 36 - 16x = 32 + 188 - 24x$$

$$40x - 36 = 220 - 24x \quad / + 24x$$

$$64x - 36 = 220 \quad / + 36$$

$$64x = 256 \quad / : 64$$

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

$$(1,2x + 1,5) \cdot 0,7 - (0,3 - 1,7x) \cdot 1,2 = (21,38 - 4,24x) \cdot 0,5$$

$$0,84x + 1,05 - 0,36 + 2,04x = 10,69 - 2,12x$$

$$2,88x + 0,69 = 10,69 - 2,12x \quad / + 2,12x$$

$$5x = 10 \quad / : 2$$

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

$$\frac{4(x+10)}{5} - \frac{2(x-9)}{3} = 4\left(\frac{x}{3} - 14\frac{1}{2}\right)$$

$$\frac{4x+40}{5} - \frac{2x-18}{3} = \frac{4x}{3} - \frac{116}{2} \quad / \text{Hauptnenner} \cdot 30$$

$$\frac{30(4x+40)}{5} - \frac{30(2x-18)}{3} = \frac{30 \cdot 4x}{3} - \frac{30 \cdot 116}{2}$$

$$6(4x+40) - 10(2x-18) = 40x - 1740$$

$$24x + 240 - 20x + 180 = 40x - 1740$$

$$4x + 420 = 40x - 1740 \quad / - 4x$$

$$420 = 36x - 1740 \quad / + 1740$$

$$2160 = 36x \quad / : 36$$

$$\underline{\underline{60 = x}}$$

$$\frac{9}{x} - 2\frac{2}{5} - \frac{3}{2}\left(\frac{9}{x} - 3\right) = \frac{6}{x}$$

$$\frac{9}{x} - \frac{12}{5} - \frac{27}{2x} + \frac{9}{2} = \frac{6}{x} \quad / \text{Hauptnenner} \cdot 10x$$

$$90 - 24x - 135 + 45x = 60$$

$$-45 + 21x = 60 \quad / + 45$$

$$21x = 105 \quad / : 21$$

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

$$4(4,7x - 14,7) - 16\frac{1,075x + 1,375}{2} = 43,3 - (37,5 - 2,5x) \cdot 1,8$$

$$18,8x - 58,8 - \frac{17,2x + 22}{2} = 43,3 - 67,5 + 4,5x \quad / \cdot 2$$

$$37,6x - 117,6 - 17,2x - 22 = 86,6 - 135 + 9x$$

$$20,4x - 139,6 = -48,4 + 9x \quad / - 9x$$

$$11,4x - 139,6 = -48,4 \quad / + 139,6$$

$$11,4x = 91,2 \quad / : 11,4$$

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

$$\frac{4}{5}(30x - 75) - (x + 27) = \frac{11x - 29}{3}$$

$$24x - 60 - x - 27 = \frac{11x - 29}{3} \quad / \text{Hauptnenner} \cdot 3$$

$$72x - 180 - 3x - 81 = 11x - 29$$

$$69x - 261 = 11x - 29 \quad / - 11x$$

$$\begin{array}{rcl} 58x - 261 & = & - 29 \\ 58x & = & 232 \end{array} \quad \begin{array}{l} / + 261 \\ / : 58 \end{array}$$

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

$$2,1\left(\frac{5x}{6} + 1,1x\right) - 0,76x + \frac{16,25x}{18} = \frac{610 - 21,35x}{18} - 28,5$$

$$\frac{10,5x}{6} + 2,31x - 0,76x + \frac{16,25x}{18} = \frac{610 - 21,35x}{18} - 28,5 \quad / \cdot 18$$

$$31,5 + 41,58 - 13,68 + 16,25x = 610 - 21,35x - 513$$

$$59,4 + 16,25x = 97 - 21,35x \quad / + 21,35x$$

$$59,4 + 37,6x = 97 \quad / - 59,4$$

$$37,6x = 37,6 \quad / : 37,6$$

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