

Löse folgende Gleichungen.

Berechne zur Kontrolle jeweils die Probe.

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

$$2x-1 = \frac{2}{3} \quad | +1$$

1.  $2x = 1\frac{2}{3} \quad | : 2$

$$x = \frac{5}{6}$$

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$$35x - 6 \cdot x - 7 + 2 = 13x - 2(x + 10) + 22$$

$$29x - 5 = 13x - 2x - 20 + 22$$

$$29x - 5 = 11x + 2 \quad | -11x$$

2.  $18x - 5 = 2 \quad | +5$

$$18x = 7 \quad | : 18$$

$$x = \frac{7}{18}$$

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$$\frac{3}{4}x + \frac{6x+6}{12} = 5x - 3x + 3 \cdot 2$$

$$\frac{9}{12}x + \frac{6x+6}{12} = 2x + 6 \quad | \cdot 12$$

$$9x + 6x + 6 = 24x + 72$$

3.  $15x + 6 = 24x + 72 \quad | -15x$

$$6 = 9x + 72 \quad | -72$$

$$-66 = 9x \quad | : 9$$

$$x = -7\frac{1}{3}$$

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$$35x - (6 - x) - 7 + 2 = 13x - (2x + 10) + 29 \cdot 3$$

$$35x - 6 + x - 5 = 13x - 2x - 10 + 87$$

$$36x - 11 = 11x + 77 \quad | -11x$$

4.  $25x - 11 = 77 \quad | +11$

$$25x = 88 \quad | : 25$$

$$x = 3,52$$

$$3 + (5x - 6) - (x - 7) + 2 = 13x - 2x + 10 + 29$$

$$3 + 5x - 6 - x + 7 + 2 = 11x + 39$$

$$6 + 4x = 11x + 39 \quad | -4x$$

$$5. \quad 6 = 7x + 39 \quad | -39$$

$$-33 = 7x \quad | :7$$

$$x = -4,71$$

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$$\frac{9x-3}{14} + 2x = \frac{1}{9} * (7x-1) * 6 - 9$$

$$\frac{9x-3}{14} + 2x = \frac{14}{3}x - \frac{6}{9} - 9$$

$$\frac{9x-3}{14} + 2x = \frac{14}{3}x - 9\frac{2}{3} \quad | *14$$

$$6. \quad 9x - 3 + 28x = \frac{196}{3}x - 135\frac{1}{3}$$

$$37x - 3 = \frac{196}{3}x - 135\frac{1}{3} \quad | +135\frac{1}{3}$$

$$37x + 132\frac{1}{3} = \frac{196}{3}x \quad | -37x$$

$$132\frac{1}{3} = 28\frac{1}{3}x \quad | :28\frac{1}{3}$$

$$x = 4,67$$

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$$20 \cdot \frac{1}{3}x + \frac{6-4x}{4} = 26,5 - \frac{10x+2x}{4+8}$$

$$6\frac{2}{3}x + 1,5 - x = 26,5 - \frac{12x}{12}$$

$$7. \quad 5\frac{2}{3}x + 1,5 = 26,5 - x \quad | +x$$

$$6\frac{2}{3}x + 1,5 = 26,5 \quad | -1,5$$

$$6\frac{2}{3}x = 25 \quad | :6\frac{2}{3}$$

$$x = 3,75$$

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$$3,5 \cdot (20,5x - 30,5) = 72,5 - 72,5x - \frac{60x - 40}{2}$$

$$71,75x - 106,75 = 72,5 - 72,5x - 30x + 20$$

$$8. \quad 71,75x - 106,75 = 92,5 - 102,5x \quad | +102,5x$$

$$174,25x - 106,75 = 92,5 \quad | +106,75$$

$$174,25x = 199,25 \quad | :174,25$$

$$x = 1,143$$

$$7,5 \cdot 2x + 3 + 5x - 4 \cdot 12 - 3 \cdot 3 + 4x - 3x + 1 \cdot 1,5 = \frac{5 \cdot 7x + 34,8}{2}$$

$$15x + 3 + 5x - 48 - 9 + 4x - 3x + 1,5 = \frac{35x + 34,8}{2}$$

$$21x - 52,5 = \frac{35x + 34,8}{2} \quad | \cdot 2$$

9.  $42x - 105 = 35x + 34,8 \quad | -35x$

$$7x - 105 = 34,8 \quad | +105$$

$$7x = 139,8 \quad | : 7$$

$$x = 19,97$$

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10.  $1,22 + 2,7x \quad 2 - 1,5x - 0,525 : 7,5 = 11,01 + 1,5 \quad 1,1x - 3,3$

$$1,22 + 5,4x - 1,5x - 0,07 = 11,01 + 1,65x - 3,3$$

$$1,15 + 3,9x = 7,71 + 1,65x \quad | -1,65x$$

$$1,15 + 2,25x = 7,71 \quad | -1,15$$

$$2,25x = 6,56 \quad | : 2,25$$

$$x = 2,92$$

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$$2,5x - 9 - 1,25 \cdot 3,2x - 18,7 + 12x = (1,9x + 0,4 - 44,8x - 0,91) \cdot 2$$

$$2,5x - 9 - 4x - 18,7 + 12x = (-42,9x - 0,51) \cdot 2$$

$$10,5x - 27,7 = -85,8x - 1,02 \quad | +85,8x$$

11.  $96,3x - 27,7 = -1,02 \quad | +27,7$

$$96,3x = 26,68 \quad | : 96,3$$

$$x = 0,277$$

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$$\frac{328}{4}(x - 5) - 3x + 2 = 1421 \frac{1}{2} : 0,5 - 4 - (11 + 6x) \cdot 2$$

$$82x - 410 - 3x + 2 = 2842 - 4 - 22 - 12x$$

$$79x - 408 = 2816 - 12x \quad | +12x$$

12.  $91x - 408 = 2816 \quad | +408$

$$91x = 3224 \quad | : 91$$

$$x = 35,43$$