

$$\begin{aligned}
 (1) \quad & x^2 - 6x + 8 = 0 \\
 & x^2 - 6x + 9 + 8 - 9 = 0 \\
 & (x-3)^2 - 1 = 0 \quad | +1 \\
 & (x-3)^2 = 1 \quad | \sqrt{\phantom{x}} \\
 & x-3 = \pm 1 \quad | +3 \\
 & x = \pm 1 + 3 \\
 & x_1 = 4 \\
 & x_2 = 2
 \end{aligned}$$

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$$\begin{aligned}
 (2) \quad & x^2 - 7x + 12 = 0 \\
 & (7:2)^2 = 3,5^2 = 12,25 \\
 & x^2 - 7x + 12,25 + 12 - 12,25 = 0 \\
 & (x-3,5)^2 - 0,25 = 0 \quad | +0,25 \\
 & (x-3,5)^2 = 0,25 \quad | \sqrt{\phantom{x}} \\
 & x-3,5 = \pm 0,5 \quad | +3,5 \\
 & x = \pm 0,5 + 3,5 \\
 & x_1 = 4 \\
 & x_2 = 3
 \end{aligned}$$

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$$\begin{aligned}
 (3) \quad & x^2 - 12x + 35 = 0 \\
 & x^2 - 12x + 36 + 35 - 36 = 0 \\
 & (x-6)^2 - 1 = 0 \\
 & (x-6)^2 = 1 \\
 & x-6 = \pm 1 \\
 & x = \pm 1 + 6 \\
 & x_1 = 7 \\
 & x_2 = 5
 \end{aligned}$$

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$$\begin{aligned}
 (4) \quad & x^2 - 2x - 3 = 0 \\
 & x^2 - 2x + 1 - 3 - 1 = 0 \\
 & (x-1)^2 - 4 = 0 \\
 & (x-1)^2 = 4 \\
 & x-1 = \pm 2 \\
 & x = \pm 2 + 1 \\
 & x_1 = 3 \\
 & x_2 = -1
 \end{aligned}$$

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$$\begin{aligned}
 (5) \quad & 5x^2 + 0,5x + 15 = 0 \quad | :5 \\
 & x^2 + 0,1x + 3 = 0 \\
 & (0,1:2)^2 = 0,0025 \\
 & x^2 + 0,1x + 0,0025 + 3 - 0,0025 = 0 \\
 & (x+0,05)^2 + 2,9975 = 0 \\
 & (x+0,05)^2 = -2,9975 \quad | \sqrt{\phantom{x}} \\
 & \text{geht nicht}
 \end{aligned}$$

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$$\begin{aligned}
 (6) \quad & 5x^2 - 36x + 7 = 0 \quad | :5 \\
 & x^2 - 7,2x + 1,4 = 0 \\
 & x^2 - 7,2x + 12,96 + 1,4 - 12,96 = 0 \\
 & (x-3,6)^2 - 11,56 = 0 \\
 & (x-3,6)^2 = 11,56 \\
 & x-3,6 = \pm 3,4 \\
 & x = \pm 3,4 + 3,6 \\
 & x_1 = 7 \\
 & x_2 = 0,2
 \end{aligned}$$

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$$\begin{aligned}
 (7) \quad & x^2 + 1,7x + 0,6 = 0 \\
 & x^2 + 1,7x + 0,7225 + 0,6 - 0,7225 = 0 \\
 & (x + 0,85)^2 - 0,1225 = 0 \\
 & (x + 0,85)^2 = 0,1225 \\
 & x + 0,85 = \pm 0,35 \\
 & x = \pm 0,35 - 0,85 \\
 & x_1 = -0,5 \\
 & x_2 = -1,2
 \end{aligned}$$

Jan 26-12:01

$$\begin{aligned}
 & 7x^2 + 0x - 28 = 0 \quad | +28 \\
 & 7x^2 = 28 \quad | :7 \\
 & x^2 = 4 \quad | \sqrt{\phantom{x}} \\
 & x = \pm 2
 \end{aligned}$$

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$$\begin{aligned}
 & 7x^2 + 0x - 28 = 0 \quad | :7 \\
 & x^2 + 0x - 4 = 0 \\
 & x^2 + 0x + 0 - 4 - 0 = 0 \\
 & (x + 0)^2 - 4 = 0 \\
 & (x + 0)^2 = 4 \\
 & x + 0 = \pm 2 \\
 & x = \pm 2 - 0
 \end{aligned}$$

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$$\begin{aligned}
 & 3x^2 + 3x = 0 \quad | :3 \\
 & x^2 + 1x = 0 \\
 & x^2 + 1x + 0,25 - 0,25 = 0 \\
 & (x + 0,5)^2 - 0,25 = 0 \\
 & (x + 0,5)^2 = 0,25 \\
 & x + 0,5 = \pm 0,5 \\
 & x = \pm 0,5 - 0,5 \\
 & x_1 = 0 \\
 & x_2 = -1
 \end{aligned}$$

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$$\begin{aligned}
 & 3x^2 + 3x = 0 \quad | :3 \\
 & x^2 + 1x = 0 \\
 & x(x+1) = 0 \\
 & \begin{array}{l} \swarrow \quad \searrow \\ x=0 \quad x+1=0 \\ \quad \quad x=-1 \end{array}
 \end{aligned}$$

Jan 28-08:02

$$\begin{aligned}
 & (x-3)(x+4) = 0 \\
 & \begin{array}{l} \swarrow \quad \searrow \\ x-3=0 \quad | +3 \quad x+4=0 \quad | -4 \\ \underline{x=3} \quad \quad \underline{x=-4} \end{array} \\
 & (x-3)(x+4) = 0 \\
 & x^2 + 4x - 3x - 12 = 0 \\
 & x^2 + 1x - 12 = 0 \\
 & x^2 + 1x + 0,25 - 12 - 0,25 = 0 \\
 & (x + 0,5)^2 - 12,25 = 0 \\
 & (x + 0,5)^2 = 12,25 \\
 & x + 0,5 = \pm 3,5 \\
 & x = \pm 3,5 - 0,5 \\
 & x_1 = 3 \\
 & x_2 = -4
 \end{aligned}$$

Jan 28-08:07