

## Lösungen Stufe A

$$\begin{aligned}
 1) \quad 4 + 15x &= 5x - 86 & | -5x \\
 4 + 10x &= -86 & | -4 \\
 10x &= -90 & | :10 \\
 x &= -9 & \mathbb{L} = \{-9\}
 \end{aligned}$$

$$\begin{aligned}
 2) \quad 4x + (15 + 3x) + (25 + x) &= 88 - 4x & \checkmark \text{ (Lassen können wegfallen!)} \\
 8x + 40 &= 88 - 4x & | +4x \quad | -40 \\
 12x &= 48 & | :12 \\
 x &= 4 & \mathbb{L} = \{4\}
 \end{aligned}$$

$$\begin{aligned}
 3) \quad 2y - 6 - (5 - y) &= 4y - 12 \\
 2y - 6 - 5 + y &= 4y - 12 \\
 3y - 11 &= 4y - 12 & | -3y \quad | +12 \\
 1 &= y & \mathbb{L} = \{1\}
 \end{aligned}$$

$$\begin{aligned}
 4) \quad 7m + 2m - 24 &= 2m - 26 + 9m + 3 \\
 9m - 24 &= 11m - 23 & | -9m \quad | +23 \\
 -1 &= 2m & | :2 \\
 -\frac{1}{2} &= m & \mathbb{L} = \left\{-\frac{1}{2}\right\}
 \end{aligned}$$

$$\begin{aligned}
 5) \quad 16n - 24 - 10n - 40 &= 38 - 4 + 20n \\
 6n - 64 &= 34 + 20n & | -6n \quad | -34 \\
 -98 &= 14n & | :14 \\
 -7 &= n & \mathbb{L} = \{-7\}
 \end{aligned}$$

$$\begin{aligned}
 6) \quad x^2 + 6x - x - 6 &= x^2 + 4x + 4 & | -x^2 \\
 5x - 6 &= 4x + 4 & | -4x \quad | +6 \\
 x &= 10 & \mathbb{L} = \{10\}
 \end{aligned}$$

$$7) 2y^2 - (2y^2 + 3y + 24y + 36) = 18$$

$$\cancel{2y^2} - \cancel{2y^2} - 3y - 24y - 36 = 18$$

$$-27y - 36 = 18 \quad | +36$$

$$-27y = 54 \quad | : (-27)$$

$$y = -2 \quad \mathbb{L} = \{-2\}$$

$$8) y^2 + 18y + 81 - (y^2 - 10y + 25) = 28$$

$$\cancel{y^2} + 18y + 81 - \cancel{y^2} + 10y - 25 = 28$$

$$28y + 56 = 28 \quad | -56$$

$$28y = -28 \quad | : 28$$

$$y = -1$$

$$\mathbb{L} = \{-1\}$$

$$9) 4x^2 + 36x = 5(4x^2 + 4x + 1) - 4(4x^2 - 4x + 1)$$

$$4x^2 + 36x = 20x^2 + 20x + 5 - 16x^2 + 16x - 4$$

$$4x^2 + 36x = 4x^2 + 36x + 1 \quad | -4x^2 \quad | -36x$$

$$0 = 1$$

$$\mathbb{L} = \{\}$$