

## Klassenarbeitstrainer Gleichungen lösen

### Aufgabe 1:

Löse die Gleichung und gib die Lösungsmenge an.

1)  $8x + 2 = 5 + 5x$

2)  $-1 \cdot (x + 2) + 4 = -1 - 2x$

3)  $5x - 1 = 5 + 3x$

4)  $-3x + 3 = -5 - 5x$

5)  $3 \cdot (x + 6) = 11x + 3 - 8x$

6)  $2 \cdot (x + 1) = 3x + 2 - 1x$

7)  $5x + 4 = 10 + 2x$

8)  $-7x - 4 = -13 - 4x$

9)  $2x - 3 = -1 + 1x$

10)  $-6x - 2 = -11 - 3x$

11)  $-2 \cdot (x + 3) + 9 = -2 - 3x$

12)  $-2x + 4 = 1 - 5x$

Erklärvideo



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### Lösung

1)

$$\begin{aligned} 8x + 2 &= 5 + 5x & | -5x \\ 3x + 2 &= 5 & | -2 \\ 3x &= 3 & | :3 \\ x &= 1 \end{aligned}$$

$$L = \{1\}$$

2)

$$\begin{aligned} -1 \cdot (x + 2) + 4 &= -1 - 2x & | T \\ -1x + 2 &= -1 - 2x & | +2x \\ x + 2 &= -1 & | -2 \\ x &= -3 \end{aligned}$$

$$L = \{-3\}$$

3)

$$\begin{aligned} 5x - 1 &= 5 + 3x & | -3x \\ 2x - 1 &= 5 & | +1 \\ 2x &= 6 & | :2 \\ x &= 3 \end{aligned}$$

$$L = \{3\}$$

4)

$$\begin{aligned} -3x + 3 &= -5 - 5x & | +5x \\ 2x + 3 &= -5 & | -3 \\ 2x &= -8 & | :2 \\ x &= -4 \end{aligned}$$

$$L = \{-4\}$$

5)

$$\begin{aligned} 3 \cdot (x + 6) &= 11x + 3 - 8x & | T \\ 3 \cdot (x + 6) &= 3x + 3 & | T \\ 3x + 18 &= 3x + 3 & | -3x \\ 18 &= 3 \end{aligned}$$

$$L = \{\}$$

6)

$$\begin{aligned} 2 \cdot (x + 1) &= 3x + 2 - 1x & | T \\ 2x + 2 &= 2x + 2 & | -2 \\ 2x &= 2x & | :2 \\ x &= x \end{aligned}$$

$$L = R$$

7)

$$\begin{aligned} 5x + 4 &= 10 + 2x & | -2x \\ 3x + 4 &= 10 & | -4 \\ 3x &= 6 & | :3 \\ x &= 2 \end{aligned}$$

$$L = \{2\}$$

8)

$$\begin{aligned} -7x - 4 &= -13 - 4x & | +4x \\ -3x - 4 &= -13 & | +4 \\ -3x &= -9 & | :(-3) \\ x &= 3 \end{aligned}$$

$$L = \{3\}$$

9)

$$\begin{aligned} 2x - 3 &= -1 + 1x & | -1x \\ 1x - 3 &= -1 & | +3 \\ 1x &= 2 & | :1 \\ x &= 2 \end{aligned}$$

$$L = \{2\}$$

10)

$$\begin{aligned} -6x - 2 &= -11 - 3x & | +3x \\ -3x - 2 &= -11 & | +2 \\ -3x &= -9 & | :(-3) \\ x &= 3 \end{aligned}$$

$$L = \{3\}$$

11)

$$\begin{aligned} -2 \cdot (x + 3) + 9 &= -2 - 3x & | T \\ -2x + 3 &= -2 - 3x & | +3x \\ x + 3 &= -2 & | -3 \\ x &= -5 \end{aligned}$$

$$L = \{-5\}$$

12)

$$\begin{aligned} -2x + 4 &= 1 - 5x & | +5x \\ 3x + 4 &= 1 & | -4 \\ 3x &= -3 & | :3 \\ x &= -1 \end{aligned}$$

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