

Gleichungen lösen

Aufgabe 1:

Löse die Gleichung und gib die Lösungsmenge an.

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

2) $-1x + 1 = -7 - 3x$

3) $5(x + 4) = 13x + 3 - 8x$

4) $4x - 2 = 2 + 3x$

5) $5(x + 1) = 8x + 5 - 3x$

6) $8x + 4 = 8 + 4x$

7) $-8x - 5 = -8 - 5x$

Lösung

1) $-1(x + 3) + 6 = -2 - 2x \quad |T$
 $-1x + 3 = -2 - 2x \quad | +2x$
 $x + 3 = -2 \quad | -3$
 $x = -5$

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

2) $-1x + 1 = -7 - 3x \quad | +3x$
 $2x + 1 = -7 \quad | -1$
 $2x = -8 \quad | :2$
 $x = -4$

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

2) $5(x + 4) = 13x + 3 - 8x \quad |T$
 $5(x + 4) = 5x + 3 \quad |T$
 $5x + 20 = 5x + 3 \quad | -5x$
 $20 = 3$

$$L = \{ \}$$

2) $4x - 2 = 2 + 3x \quad | -3x$
 $1x - 2 = 2 \quad | +2$
 $1x = 4 \quad | :1$
 $x = 4$

$$L = \{4\}$$

2) $5(x + 1) = 8x + 5 - 3x \quad |T$
 $5x + 5 = 5x + 5 \quad | -5$
 $5x = 5x \quad | :5$
 $x = x$

$$L = R$$

2) $8x + 4 = 8 + 4x \quad | -4x$
 $4x + 4 = 8 \quad | -4$
 $4x = 4 \quad | :4$
 $x = 1$

$$L = \{1\}$$

2) $-8x - 5 = -8 - 5x \quad | +5x$
 $-3x - 5 = -8 \quad | +5$
 $-3x = -3 \quad | :(-3)$
 $x = 1$

$$L = \{1\}$$