

Übungsblatt: Gleichungen

Beispiel:

$$36 + x = 2(x + 7)$$

$$36 + x = 2x + 14 \quad | -2x$$

$$36 - x = 14 \quad | -36$$

$$-x = -22 \quad | \cdot (-1)$$

$$\underline{\underline{x = 22}}$$

Probe :

$$36 + x = 2 \cdot (x + 7)$$

$$36 + 22 = 2 \cdot (22 + 7)$$

$$58 = 2 \cdot 29$$

$$58 = 58 \quad (\text{wahr})$$

$$\Rightarrow \mathbb{L} = \{22\}$$

a) $6x = 2 \cdot (x + 3)$

b) $5 \cdot (3 - 2x) = -15x + 100$

c) $17x - 8 = 6 \cdot (3x - 1)$

d) $18 = 2 \cdot (2x - 4) + 10$

e) $8 \cdot (3x - 4) = 6 \cdot (-4x - 2)$

f) $x \cdot (3x + 1) = 10 + 3x^2$

g) $2x^2 + 2x + 4 = 2x^2 + 100$

h) $2x \cdot (2 + 4x) = 9 + 8x^2$

i) $2x \cdot (12 + 2x) + 18 = 4x^2$

j) $4 - 3x^2 = 3x \cdot (-2 - x)$

k) $x^2 = (x + 2)^2$

l) $(y + 3)^2 = 18 + y^2$

m) $(x + 5)^2 = (5 - x)^2$

n) $(x - 7)^2 = (x + 1)^2 + 18$

o) $12 + (2 + x)^2 = (x + 2) \cdot (x + 4)$

p) $2k \cdot (2 + 4k) = 32 + 8k^2$

q) $b \cdot (3b + 1) = 10 + 3b^2$

r) $\frac{16 - 2u}{2} = 4u - 7$

s) $7 \cdot (9h - 45) = 0$

t) $4q - 14 = 4 \cdot (3q - 2)$

