

Lineare Gleichungssysteme Aufgabe 37

$$(x - 6)(y - 3) = (x - 4)(y - 4) \quad (1)$$

$$(x - 10)(y - 1) = (x - 9)(y - 3) \quad (2)$$

$$xy - 3x - 6y + 18 = xy - 4x - 4y + 16 \quad | -xy$$

$$xy - x - 10y + 10 = xy - 3x - 9y + 27 \quad | -xy$$

$$-3x - 6y + 18 = -4x - 4y + 16 \quad | +4x$$

$$-x - 10y + 10 = -3x - 9y + 27 \quad | +3x$$

$$x - 6y + 18 = -4y + 16 \quad | +4y$$

$$2x - 10y + 10 = -9y + 27 \quad | +9y$$

$$x - 2y + 18 = 16 \quad | -18$$

$$2x - y + 10 = 27 \quad | -10$$

$$\mathbf{x - 2y = -2} \quad | \cdot (-2)$$

$$\mathbf{2x - y = 17}$$

$$-2x + 4y = 4$$

$$\underline{2x - y = 17}$$

$$3y = 21 \quad | :3$$

$$\mathbf{y = 7}$$

y in (1) eingesetzt

$$(x - 6)(7 - 3) = (x - 4)(7 - 4)$$

$$(x - 6)4 = (x - 4)3$$

$$4x - 24 = 3x - 12 \quad | -3x$$

$$x - 24 = -12 \quad | +24$$

$$\mathbf{x = 12}$$