

Probe - Lösung

1a)

$$\text{I) } -3 = 2^2 + 2p + q \quad \checkmark$$

$$\text{II) } 5 = 6^2 + 6p + q \quad \checkmark$$

$$\text{I) } -3 = 4 + 2p + q \quad | -4 - 2p$$

$$-7 - 2p = q \quad \checkmark$$

$$\text{in II) } 5 = 36 + 6p - 7 - 2p$$

$$-24 = 4p \quad | :4$$

$$-6 = p \quad \checkmark$$

$$\text{in I) } -7 - 2 \cdot (-6) = q$$

$$5 = q \quad \checkmark$$

$$y = x^2 - 6x + 5 \quad \checkmark$$

1b)

$$y = x^2 - 6x + 9 - 9 + 5$$

$$y = (x-3)^2 - 4 \quad S_1(3| -4) \quad \checkmark$$

1c)

$$x_{M2} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x_{M2} = \frac{6 \pm \sqrt{36 - 20}}{2} \quad \checkmark$$

$$x_{M2} = \frac{6 \pm 4}{2} \quad \checkmark \rightarrow x_1 = 5 \quad N_1(5|0) \quad \checkmark$$

$$\rightarrow x_2 = 1 \quad N_2(1|0) \quad \checkmark$$

1d)

$$y = -(x-1)^2 + 6 \quad \checkmark$$

$$y = -(x^2 - 2x + 1) + 6 \quad \checkmark$$

$$y = -x^2 + 2x + 5 \quad \checkmark$$

1e)

$$x^2 - 6x + 5 = -x^2 + 2x + 5 \quad \checkmark$$

$$2x^2 - 8x = 0 \quad \checkmark$$

$$x_{N1/2} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x_{N1/2} = \frac{8 \pm \sqrt{64 - 4 \cdot 2 \cdot 0}}{4}$$

$$x_{N1} = \frac{8+8}{4} = 4 \quad \checkmark$$

$$x_{N2} = \frac{8-8}{4} = 0 \quad \checkmark$$

⑥

$$y_1 = 4^2 - 6 \cdot 4 + 5$$

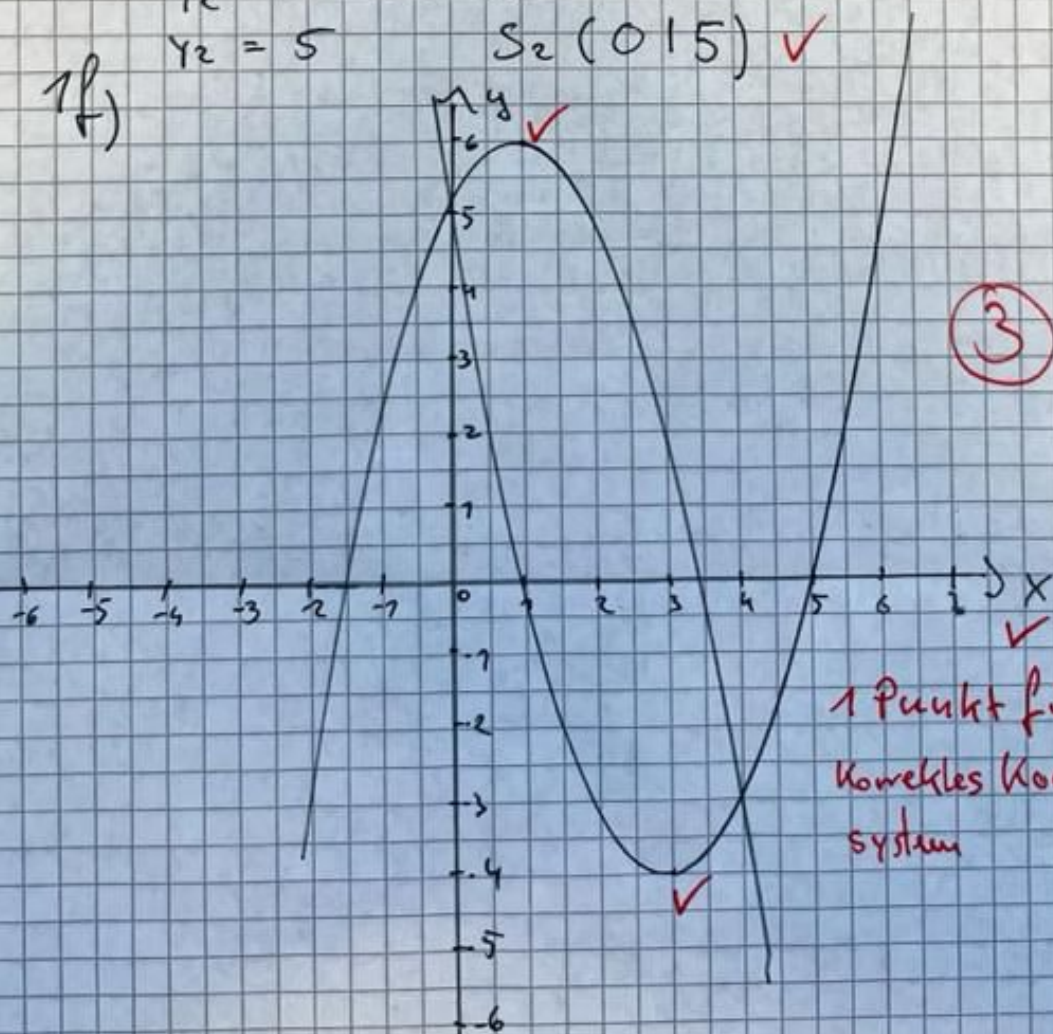
$$y_1 = 16 - 24 + 5$$

$$y_1 = -3 \quad S_1(4 | -3) \quad \checkmark$$

$$y_2 = 0^2 - 6 \cdot 0 + 5$$

$$y_2 = 5 \quad S_2(0 | 5) \quad \checkmark$$

1f)



③

1 Punkt für
korrektes Koordinaten-
system