

Lösung:

1. $f \rightarrow b$ ✓ $c = 2$: Schnitt mit der y -Achse ✓
 $g \rightarrow c$ ✓ $S(1|2)$ ✓
 $p \rightarrow a$ $x_1 = -2$ $x_2 = 1$ ✓

SP

2. $T(0|2)$ $x_1 = -1$ $x_2 = 4$ ✓✓

$$y = a(x+1)(x-4) \quad \checkmark$$

$$2 = a(1)(-4) \quad \checkmark \Rightarrow a = -\frac{1}{2} \quad \checkmark$$

SP

$$y = -\frac{1}{2}(x+1)(x-4) \quad \checkmark$$

3.1 $\frac{1}{2}x^2 - 2x + t = -\frac{1}{2}x - 1 \quad \checkmark$

$$\frac{1}{2}x^2 - 1\frac{1}{2}x + t + 1 = 0 \quad \checkmark$$

$$D = (-1\frac{1}{2})^2 - 4 \cdot \frac{1}{2} \cdot (t+1) \quad \checkmark = 2,25 - 2t - 2$$

SP

$$D = \frac{1}{4} - 2t \quad \checkmark = 0 \quad \checkmark \Rightarrow t = \frac{1}{8} \quad \checkmark$$

3.2 $\frac{1}{2}x^2 - 2x - 1 = -\frac{1}{2}x - 1$

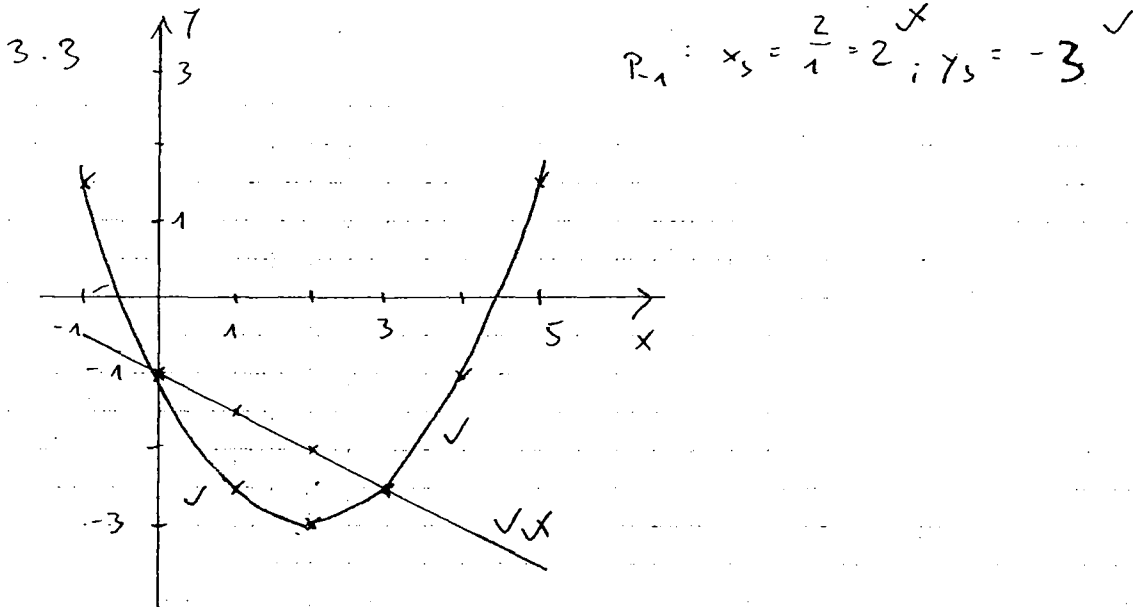
$$\frac{1}{2}x^2 - 1\frac{1}{2}x = 0 \quad \checkmark \Rightarrow \frac{1}{2}x(x-3) = 0 \quad \checkmark \checkmark$$

$$\text{oder: } D = (-1\frac{1}{2})^2 - 4 \cdot \frac{1}{2} \cdot 0 = 2,25$$

SP

$$x_{1,2} = \frac{1\frac{1}{2} \pm 1\frac{1}{2}}{2 \cdot \frac{1}{2}} \Rightarrow x_1 = 0 \quad \checkmark \quad x_2 = 3 \quad \checkmark$$

$$y_1 = -1 \quad \checkmark \quad y_2 = -2\frac{1}{2} \quad \checkmark$$



SP

$$P_1: x_3 = \frac{2}{1} = 2; y_3 = -3 \quad \checkmark$$

4.1 $K(100) = 0,02 \cdot 100^2 - 6 \cdot 100 + 471,5 = 71,50 \text{ €}$ ✓ 2P

4.2 niedrigster Wert beim Scheitelpunkt ✓

$$x_s = \frac{\pm 6}{2 \cdot 0,02} = 150 \text{ ✓}$$

3P

$$\underline{\underline{y_s = 21,5 \text{ €}}} \text{ ✓}$$

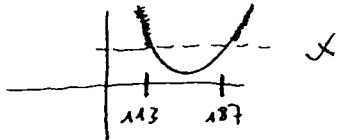
4.3 $50 > 0,02x^2 - 6x + 471,5$ ✓

NZ: $0 = 0,02x^2 - 6x + 471,5$ ✓

$$D = (-6)^2 - 4 \cdot 0,02 \cdot 471,5 = 2,28 \text{ ✓}$$

$$x_{1,2} = \frac{6 \pm \sqrt{2,28}}{2 \cdot 0,02} \text{ ✓} \quad x_1 = 187,75 \quad x_2 = 112,25 \text{ ✓}$$

5P



Es können von 113 bis 187

Stück produziert werden ✓