

S49 Nr 9

$$f(x) = ax^2 + b$$

$$f(0) = 2 \Rightarrow a \cdot 0^2 + b = 2 \Rightarrow b = 2$$

$$f(5) = 1 \Rightarrow a \cdot 5^2 + 2 = 1 \Rightarrow a \cdot 25 = -1 \quad | :25$$

$$a = -\frac{1}{25}$$

$$f(x) = -\frac{1}{25}x^2 + 2$$

$$\text{Breite am Boden} \Rightarrow f(x) = 0$$

$$-\frac{1}{25}x^2 + 2 = 0 \Rightarrow x^2 = 2 \cdot 25$$

$$x_{1,2} = \pm 5\sqrt{2}$$

$$\text{Breite am Boden} = 5 \cdot \sqrt{2} \cdot 2 = \underline{\underline{10\sqrt{2} \text{ m}}}$$