

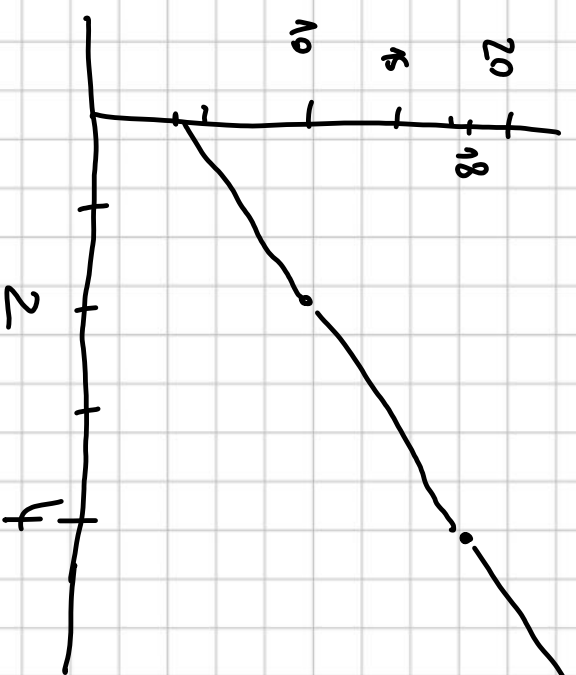
$$g = X^2 - 8X^2 + 16$$

$$f(x) = 2 + 4 \cdot x$$

$$\textcircled{1} f(x) \subseteq \mathbb{R}$$

$$f(4) = 2 + 4 \cdot 4 = 18$$

$$f(2) = 10$$



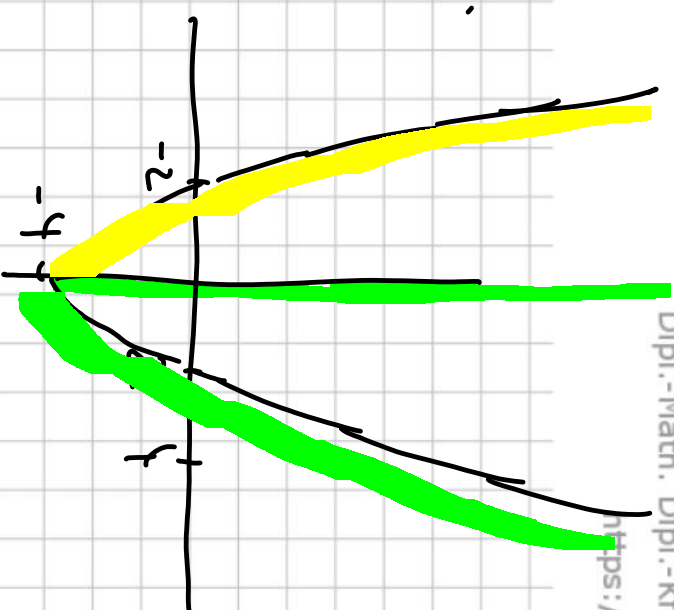
$$f(x) = x^2 - 4$$

$$f(0) = 0^2 - 4 = -4$$

$$D_f = \mathbb{R}$$

$$W_f = \mathbb{R}_{\geq -4} = [-4; \infty)$$

$$f(-x) = f(x) \quad \dots \quad \text{ACHSENSYMMETR.}$$



$$f(x) = x^2 - 4$$

$$f(-x) =$$

$$\parallel (-x)^2 - 4 = x^2 - 4$$

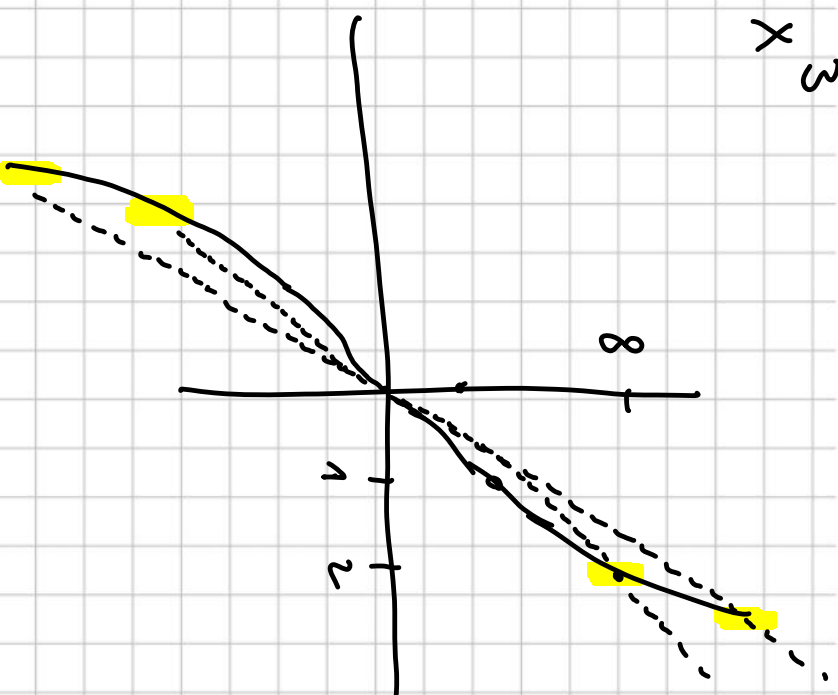
$$f(x) = x^2 - 4$$

f ACHSENSYMMETR

$$f(x) = x^3$$

$$f(-x) = -f(x)$$

$$f(-x) = (-x)^3 = (-x)(-x)(-x) = -x^3$$
$$-f(x) = -x^3$$



ELASTIZITÄT

$$\varepsilon_f(x) = \frac{f'(x)}{f(x)} \cdot x$$

$$\varepsilon = 2$$

$x \uparrow$  um 4%  $\longrightarrow y \uparrow$  um 2 · 4% = 8%

$$f(x) = 4 \cdot x^5 \Rightarrow f'(x) = 20 \cdot x^4$$

$$\varepsilon_f(x) = \frac{20x^4}{4 \cdot x^5} \cdot x = \underline{\underline{5}}$$

$$(a \cdot x^m)' = a \cdot m \cdot x^{m-1}$$

$$x = 2 \Rightarrow y = f(x) = 4 \cdot 2^5 = 128$$

$$\boxed{133,8\%}$$

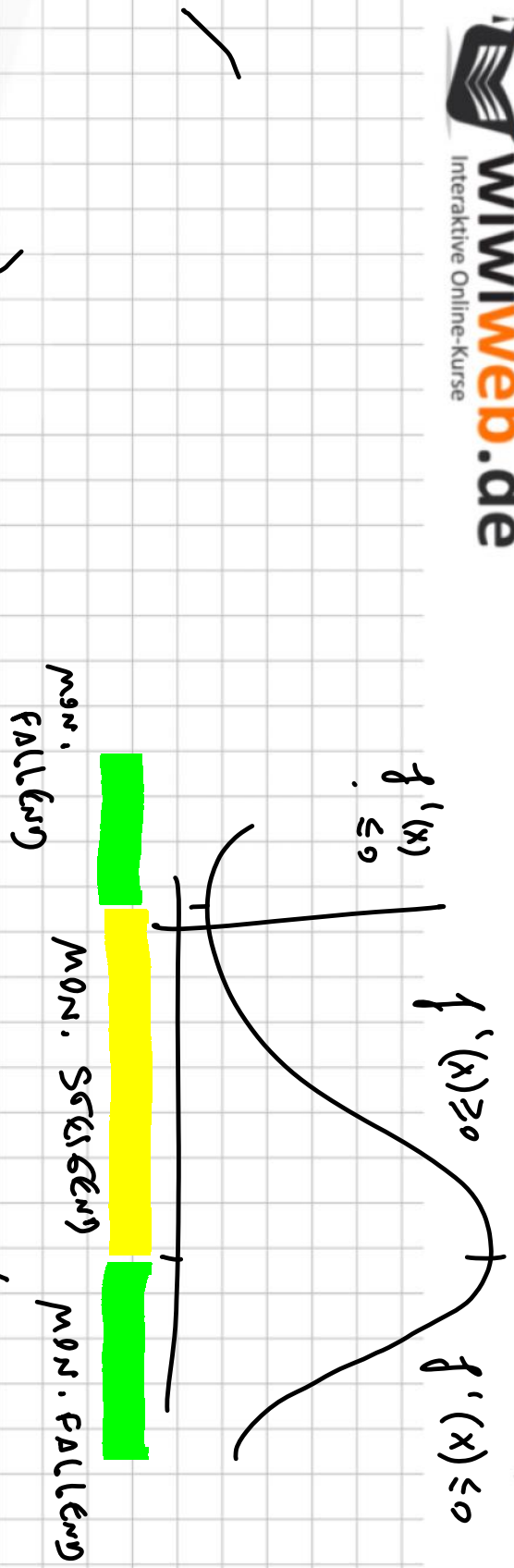
6% ↑

$$x = 2,12 \Rightarrow y = f(2,12) = 4 \cdot 2,12^5 = 171,2928 \dots$$

Stärke wGS versch.

$$f'(x) \geq 0 \Rightarrow f \text{ mon. steigend}$$

— " — > 0 ⇒ f str. — " —



$$f(x) = x^2$$

$$f'(x) =$$

