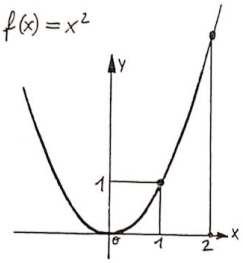
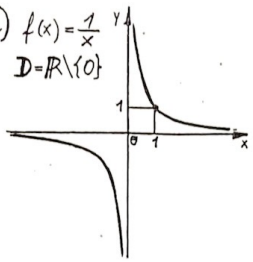
STETIG – UNSTETIG

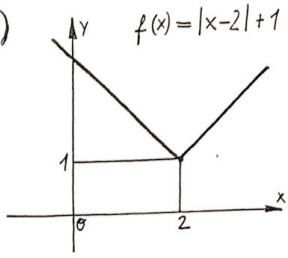
1) $f(x) = x^2$



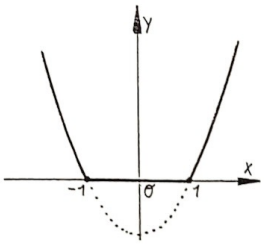
2) $f(x) = \frac{1}{x}$, $D = \mathbb{R} \setminus \{0\}$



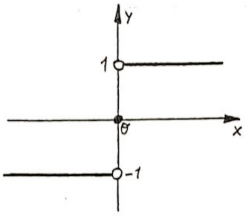
3) $f(x) = |x-2| + 1$



4) $f(x) = \begin{cases} x^2 - 1 & \text{für } |x| > 1 \\ 0 & \text{für } |x| \leq 1 \end{cases}$

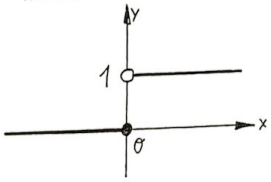


5) $f(x) = \operatorname{sgn} x$

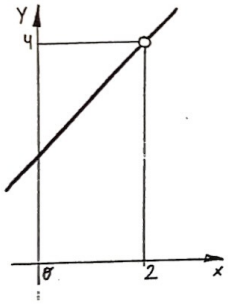


6) $f(x) = \begin{cases} 1 & \text{für } x \in \mathbb{R}^+ \\ 0 & \text{für } x \in \mathbb{R}_0^- \end{cases}$

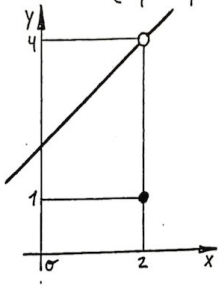
HEAVISIDE – Funktion



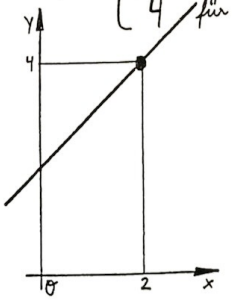
7a) $f(x) = \frac{x^2 - 4}{x - 2}$, $D = \mathbb{R} \setminus \{2\}$



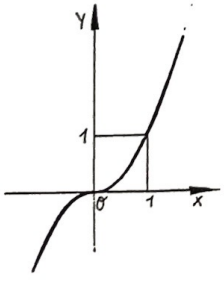
7b) $f(x) = \begin{cases} \frac{x^2 - 4}{x - 2} & \text{für } x \neq 2 \\ 1 & \text{für } x = 2 \end{cases}$



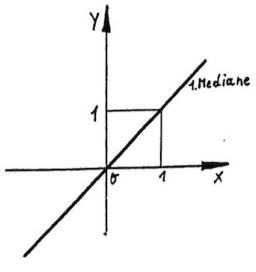
7c) $f(x) = \begin{cases} \frac{x^2 - 4}{x - 2} & \text{für } x \neq 2 \\ 4 & \text{für } x = 2 \end{cases}$



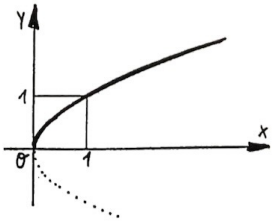
8) $f(x) = x^2 \cdot \operatorname{sgn} x$



9) $f(x) = id\, x = x$



10) $f(x) = \sqrt{x}$, $D = \mathbb{R}_0^+$



11a)

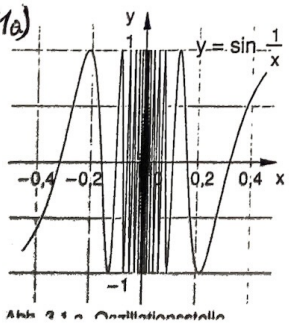


Abb. 3.6 Oszillationsstelle

11b)

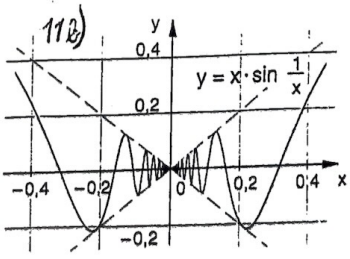


Abb. 3.7 Gleiche einseitige Grenzwerte