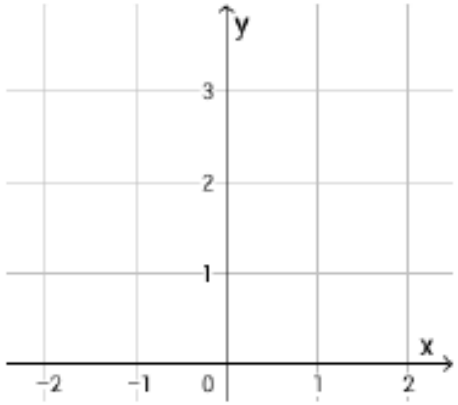
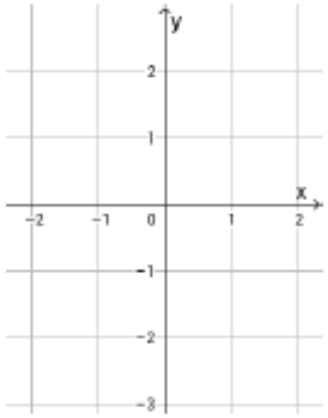
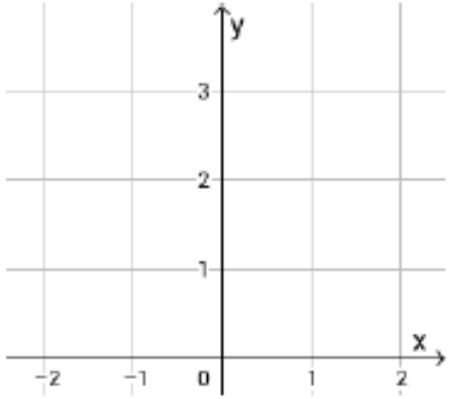
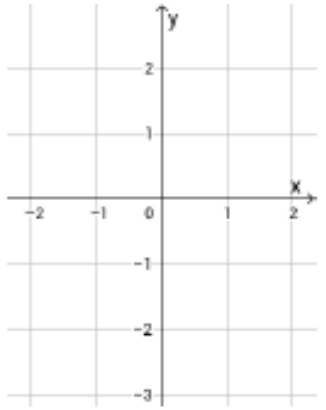
Potenz- & Exponentialfunktion

Potenzfunktion



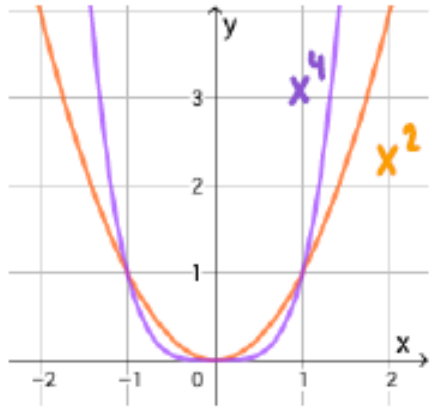
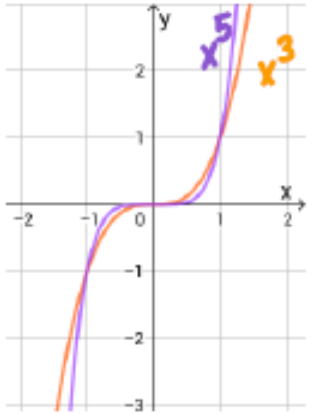
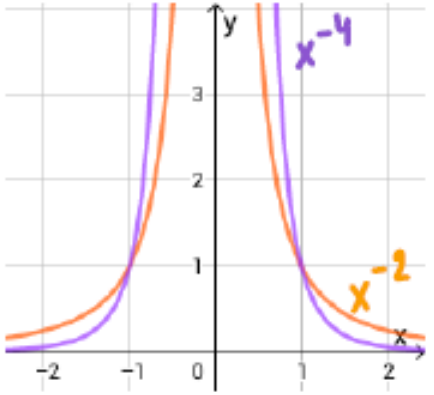






Potenz- & Exponentialfunktion

Potenzfunktion

$f(x) = x^n; n \in \mathbb{N} \setminus \{0\}$		$f(x) = x^{-n}; n \in \mathbb{N} \setminus \{0\}$	
n gerade	n ungerade	n gerade	n ungerade
			
⇒ $D = \{x \in \mathbb{R}\}$ ⇒ $W = \{y \in \mathbb{R} \mid y \geq 0\}$ ⇒ Symmetrisch zur y-Achse ↳ $f(x) = f(-x)$ ⇒ NS: $x_0 = 0$ ⇒ gemeinsame Punkte: $(-1\|1), (0\|0), (1\|1)$	⇒ $D = \{x \in \mathbb{R}\}$ ⇒ $W = \{y \in \mathbb{R}\}$ ⇒ Punktsymmetrisch zum Ursprung: ↳ $f(-x) = -f(x)$ ⇒ NS: $x_0 = 0$ ⇒ gemeinsame Punkte: $(-1\|-1), (0\|0), (1\|1)$	⇒ $D = \{x \in \mathbb{R} \mid x \neq 0\}$ ⇒ $W = \{y \in \mathbb{R} \mid y > 0\}$ ⇒ Symmetrisch zur y-Achse ↳ $f(x) = f(-x)$ ⇒ NS: keine ⇒ gemeinsame Punkte: $(-1\|1), (1\|1)$	⇒ $D = \{x \in \mathbb{R} \mid x \neq 0\}$ ⇒ $W = \{y \in \mathbb{R} \mid y \neq 0\}$ ⇒ Punktsymmetrisch zum Ursprung: ↳ $f(-x) = -f(x)$ ⇒ NS: keine ⇒ gemeinsame Punkte: $(-1\|-1), (1\|1)$