

## 1.2 Notes - PARENT FUNCTIONS

EQUATION	NAME	GRAPH	DOMAIN/ RANGE	CRITICAL POINTS	ODD/EVEN/NEITHER
$y = c$	constant		D: $\mathbb{R}$ R: $y=c$	$\begin{array}{c c} x & y \\ \hline 0 & c \\ 1 & c \\ 2 & c \end{array}$	even
$y = x$	linear		D: $\mathbb{R}$ R: $\mathbb{R}$	$\begin{array}{c c} x & y \\ \hline -1 & -1 \\ 0 & 0 \\ 1 & 1 \end{array}$	odd
$y = x^2$	quadratic		D: $\mathbb{R}$ R: $y \geq 0$	$\begin{array}{c c} x & y \\ \hline -1 & 1 \\ 0 & 0 \\ 1 & 1 \end{array}$	even
$y = \sqrt{x}$	square root		D: $x \geq 0$ R: $y \geq 0$	$\begin{array}{c c} x & y \\ \hline 0 & 0 \\ 1 & 1 \\ 4 & 2 \end{array}$	neither
$y = \frac{1}{x}$	Rational (reciprocal)		D: $\mathbb{R}, x \neq 0$ R: $\mathbb{R}, y \neq 0$	$\begin{array}{c c} x & y \\ \hline -1 & -1 \\ 0 & \text{und.} \\ 1 & 1 \end{array}$	odd
$y = b^x$	Exponential (a/b)		D: $\mathbb{R}$ R: $y > 0$	$\begin{array}{c c} x & y \\ \hline -1 & 1/b \\ 0 & 1 \\ 1 & b \end{array}$	neither
$y = \log_b x$	logarithmic		D: $x > 0$ R: $\mathbb{R}$	$\begin{array}{c c} x & y \\ \hline 0 & \text{und.} \\ 1 & 0 \end{array}$	neither
$y = x^3$	Cubic		D: $\mathbb{R}$ R: $\mathbb{R}$	$\begin{array}{c c} x & y \\ \hline -1 & -1 \\ 0 & 0 \\ 1 & 1 \end{array}$	odd
$y = \sqrt[3]{x}$	Cube root		D: $\mathbb{R}$ R: $\mathbb{R}$	$\begin{array}{c c} x & y \\ \hline -1 & -1 \\ 0 & 0 \\ 1 & 1 \end{array}$	odd
$y =  x $	Absolute value		D: $\mathbb{R}$ R: $y \geq 0$	$\begin{array}{c c} x & y \\ \hline -1 & 1 \\ 0 & 0 \\ 1 & 1 \end{array}$	even
$y = \lceil x \rceil$	Greatest Integer (step)		D: $\mathbb{R}$ R: $\mathbb{Z}$	$\begin{array}{c c} x & y \\ \hline 0 & 0 \\ 1 & 1 \\ 2 & 2 \end{array}$	neither

↳ all integers