Parent Functions

(with Domain and Range)

Darant Function	Cranh	Darant Function	Cranh
Parent Function	Graph	Parent Function	Graph
$y = x$ Linear, Odd Domain: $(-\infty, \infty)$ Range: $(-\infty, \infty)$	× ×	$y = x $ Absolute Value, Even Domain: $(-\infty,\infty)$ Range: $[0,\infty)$	X X
$\begin{array}{c} x \to -\infty, \ y \to -\infty \\ x \to \infty, y \to \infty \end{array}$		End Behavior: $x \to -\infty, y \to \infty$ $x \to \infty, y \to \infty$	4
$y = x^2$ Quadratic, Even Domain: $(-\infty,\infty)$	V A	$y = \sqrt{x}$ Radical, Neither Domain: $[0, \infty)$	TV x
Range: $[0,\infty)$ End Behavior: $x \to -\infty, y \to \infty$		Range: $[0,\infty)$ End Behavior: $x \to \infty$, $y \to \infty$	
$x \to \infty$, $y \to \infty$			
$y = x^3$ Cubic , Odd	7 7 4	$y = \sqrt[3]{x}$ Cube Root, Odd	Ţv
Domain: $(-\infty,\infty)$ Range: $(-\infty,\infty)$	* * * * * * * * * * * * * * * * * * *	Domain: $(-\infty,\infty)$ Range: $(-\infty,\infty)$	x
End Behavior: $x \rightarrow -\infty$, $y \rightarrow -\infty$ $x \rightarrow \infty$, $y \rightarrow \infty$	5	End Behavior: $x \to -\infty$, $y \to -\infty$ $x \to \infty$, $y \to \infty$	3
$y = b^x, b > 1$		$y = \log_b(x), \ b > 1$	
Exponential, Neither	,	Log, Neither	5
Domain: $(-\infty,\infty)$ Range: $(0,\infty)$	*	Domain: $(0,\infty)$ Range: $(-\infty,\infty)$	x
End Behavior: $x \rightarrow -\infty, y \rightarrow 0$ $x \rightarrow \infty, y \rightarrow \infty$	3	End Behavior: $x \to 0^+, y \to -\infty$ $x \to \infty, y \to \infty$	0
$y = \frac{1}{x}$ Rational (Inverse), Odd		$y = \frac{1}{x^2}$ Rational (Inverse Squared), Even	
Domain: $(-\infty,0)\cup(0,\infty)$ Range: $(-\infty,0)\cup(0,\infty)$	×	Domain: $(-\infty,0)\cup(0,\infty)$ Range: $(0,\infty)$	* * * * * * * * * * * * * * * * * * *
End Behavior: $x \to -\infty$, $y \to 0$ $x \to \infty$, $y \to 0$		End Behavior: $x \to -\infty$, $y \to 0$ $x \to \infty$, $y \to 0$	0
y = int(x) = [x]		y = C	Ty
Greatest Integer , Neither	1 -	(y = 2 in the graph) Constant, Even	
Domain: $(-\infty,\infty)$ Range: $\{y: y \in \mathbb{Z}\}$ (integers)		Domain: $(-\infty,\infty)$ Range: $\{y: y = C\}$	
End Behavior: $x \to -\infty$, $y \to -\infty$		End Behavior: $x \rightarrow -\infty$, $y \rightarrow C$	
$x \to \infty$, $y \to \infty$		$x \to \infty$, $y \to C$	