

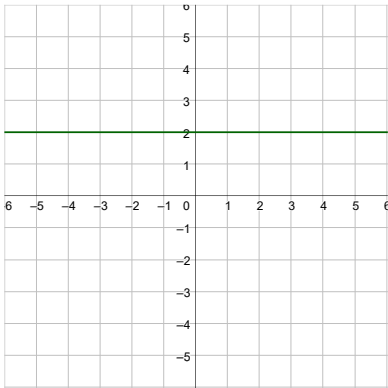
Precalculus

1-06 Graphs of Parent Functions

Parent Functions

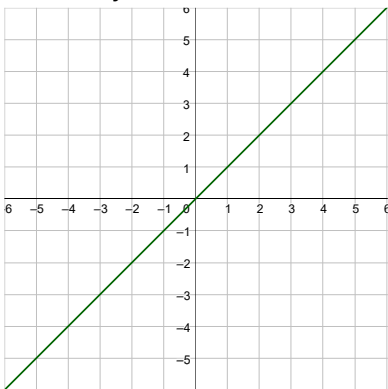
Constant Function $f(x) = c,$

- Domain is _____.
- Range is _____.
- Neither increasing or decreasing.
- Symmetric _____.



Linear Function $f(x) = x,$

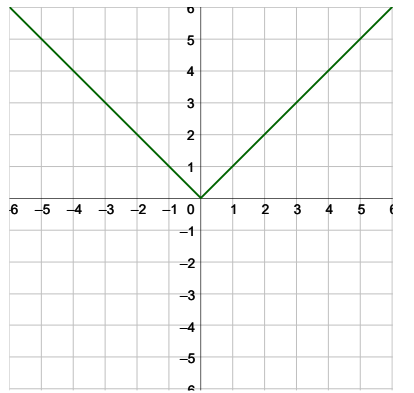
- Domain is _____.
- Range is _____.
- Increases from $(-\infty, \infty)$.
- Symmetric _____.



Absolute Value Function

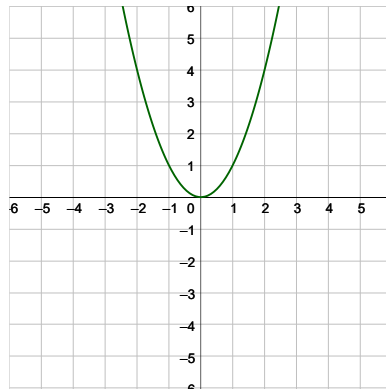
$$f(x) = |x|,$$

- Domain is _____.
- Range is _____.
- Decreasing on $(-\infty, 0)$ and increasing on $(0, \infty)$.
- Symmetric _____.



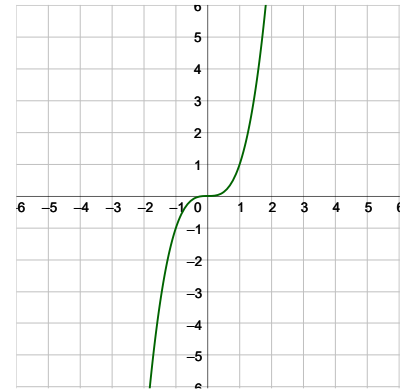
Quadratic Function $f(x) = x^2,$

- Domain is _____.
- Range is _____.
- Decreasing over $(-\infty, 0)$ and increasing on $(0, \infty)$.
- Symmetric _____.



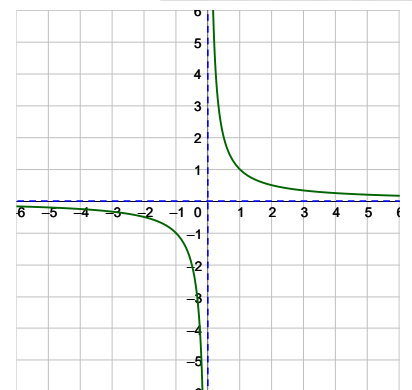
Cubic Function $f(x) = x^3,$

- Domain is _____.
- Range is _____.
- Increasing on $(-\infty, \infty)$.
- Symmetric _____.



Reciprocal Function $f(x) = \frac{1}{x},$

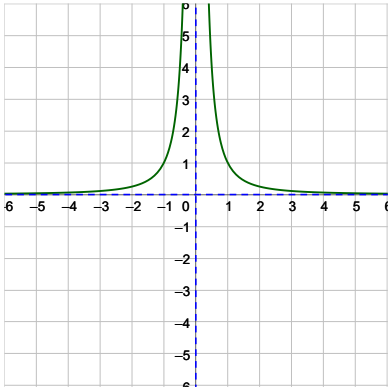
- Domain is _____.
- Range is _____.
- Decreasing on $(-\infty, 0)$ and $(0, \infty)$.
- Symmetric _____ and _____.



Reciprocal Squared Function

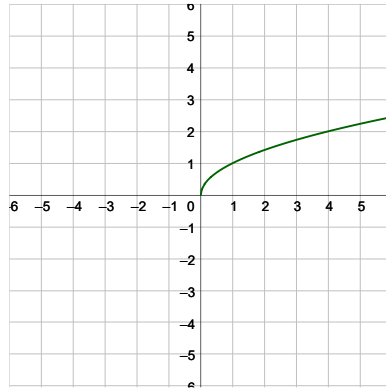
$$f(x) = \frac{1}{x^2}$$

- Domain is _____
- Range is _____
- Increasing on $(-\infty, 0)$ and decreasing on $(0, \infty)$.
- Symmetric _____



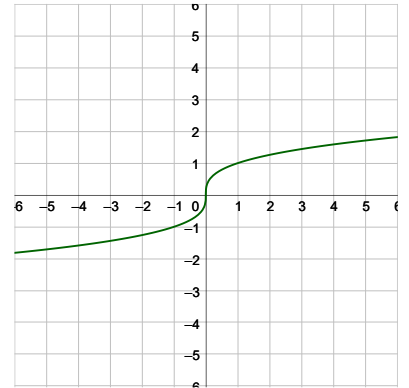
Square Root Function $f(x) = \sqrt{x}$,

- Domain is _____
- Range is _____.
- Increasing on $(0, \infty)$.
- Symmetric _____



Cube Root Function $f(x) = \sqrt[3]{x}$,

- Domain is _____
- Range is _____
- Increasing over $(-\infty, \infty)$.
- Symmetric _____



Piecewise Functions

- At the boundary,
 - If equal → _____ dot
 - If not equal → _____ dot

Graph $g(x) = \begin{cases} 3x, & x \leq 1 \\ x^2, & x > 1 \end{cases}$

