

# FUNctions

## Basic Graphs

MATH by Wilson  
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### Identity FUNction:

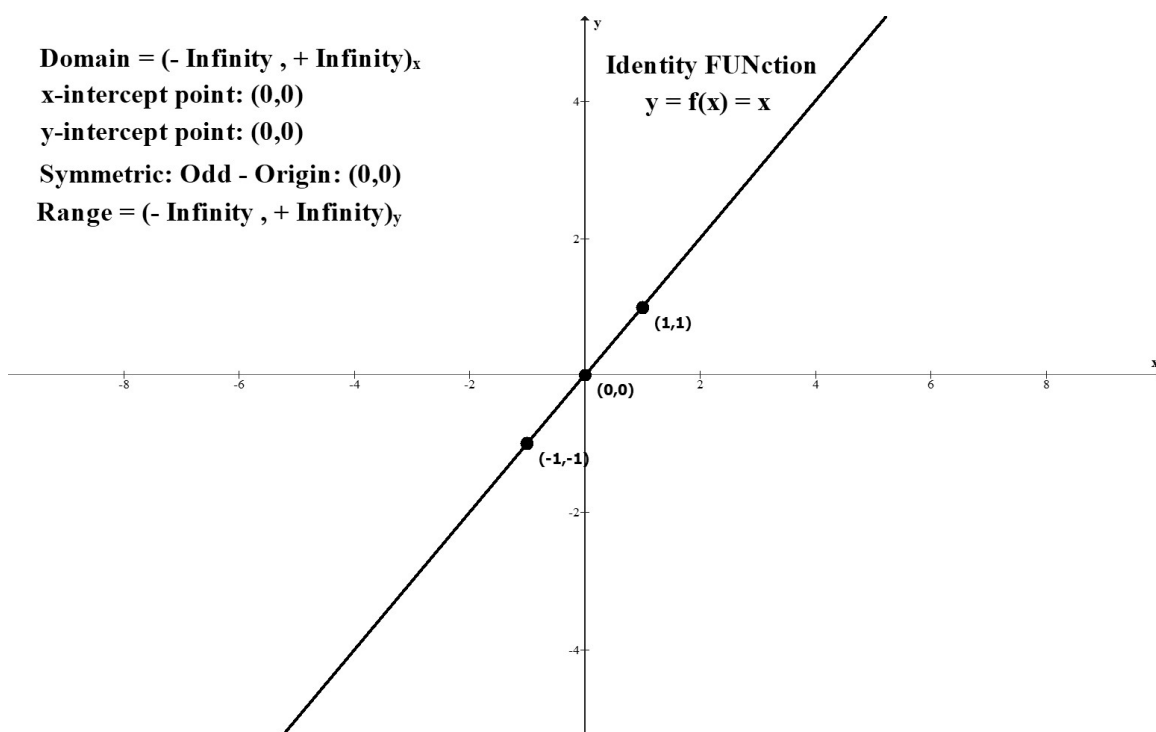
**Domain = (- Infinity , + Infinity)<sub>x</sub>**

**x-intercept point: (0,0)**

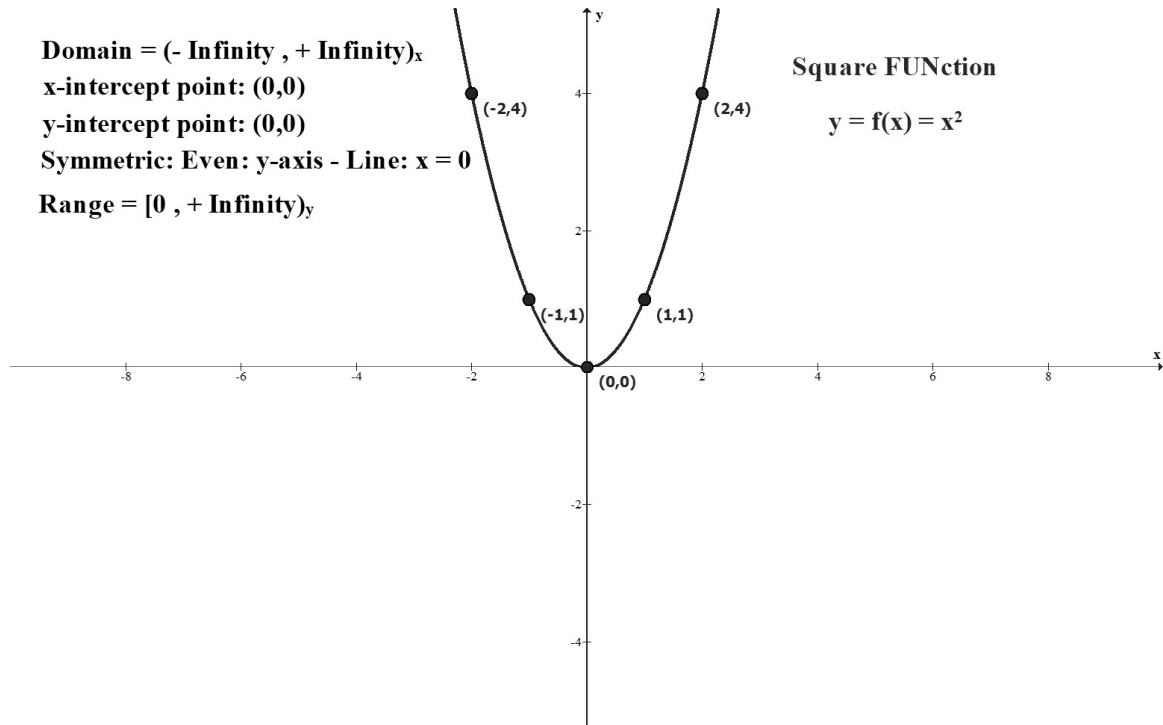
**y-intercept point: (0,0)**

**Symmetric: Odd - Origin: (0,0)**

**Range = (- Infinity , + Infinity)<sub>y</sub>**



# Square FUNCTION:



# Cube FUNCTION:

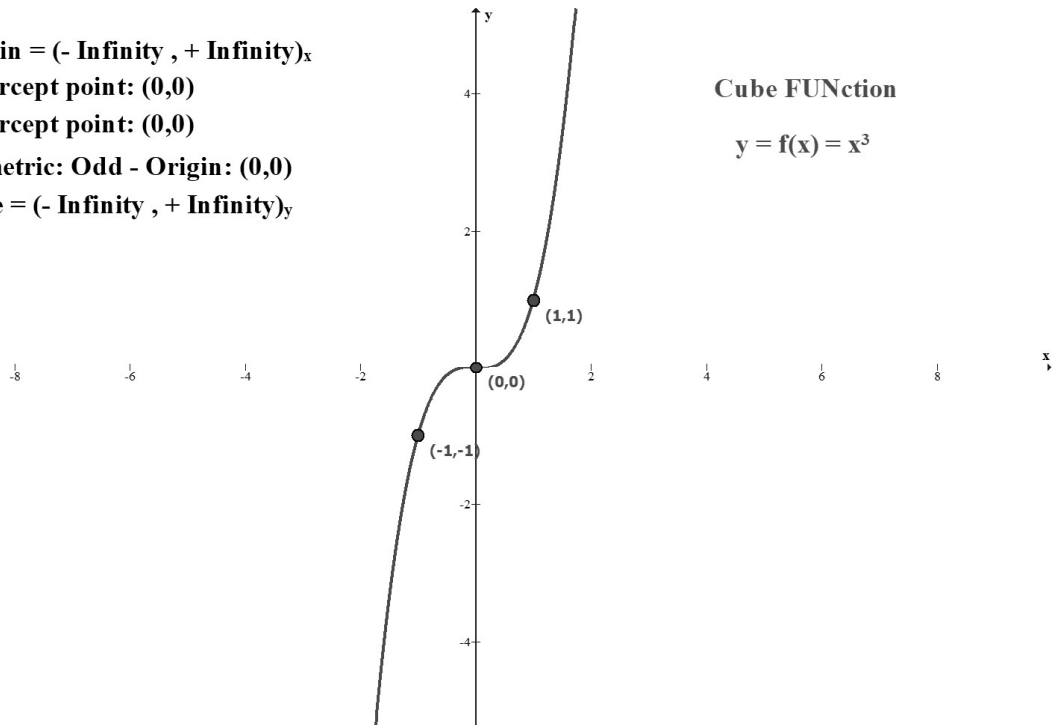
**Domain = (- Infinity , + Infinity)<sub>x</sub>**

**x-intercept point: (0,0)**

**y-intercept point: (0,0)**

**Symmetric: Odd - Origin: (0,0)**

**Range = (- Infinity , + Infinity)<sub>y</sub>**



**Cube FUNCTION**

$$y = f(x) = x^3$$

# Square Root FUNCTION:

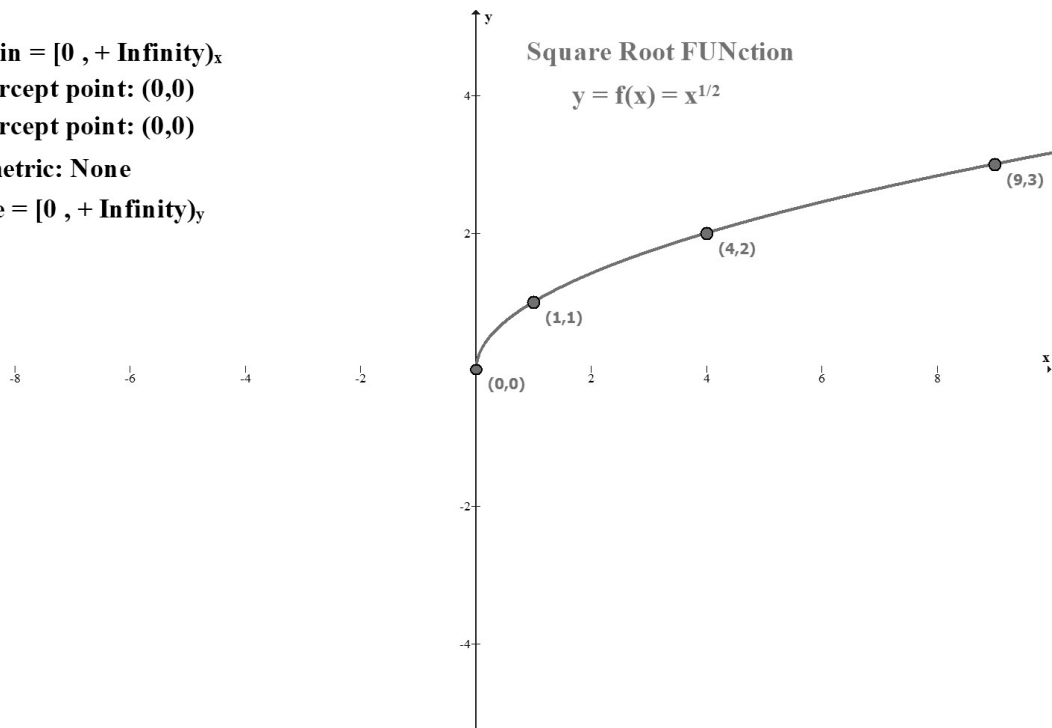
**Domain =  $[0, +\infty)$** <sub>x</sub>

**x-intercept point: (0,0)**

**y-intercept point: (0,0)**

**Symmetric: None**

**Range =  $[0, +\infty)$** <sub>y</sub>



# Cube Root FUNCTION:

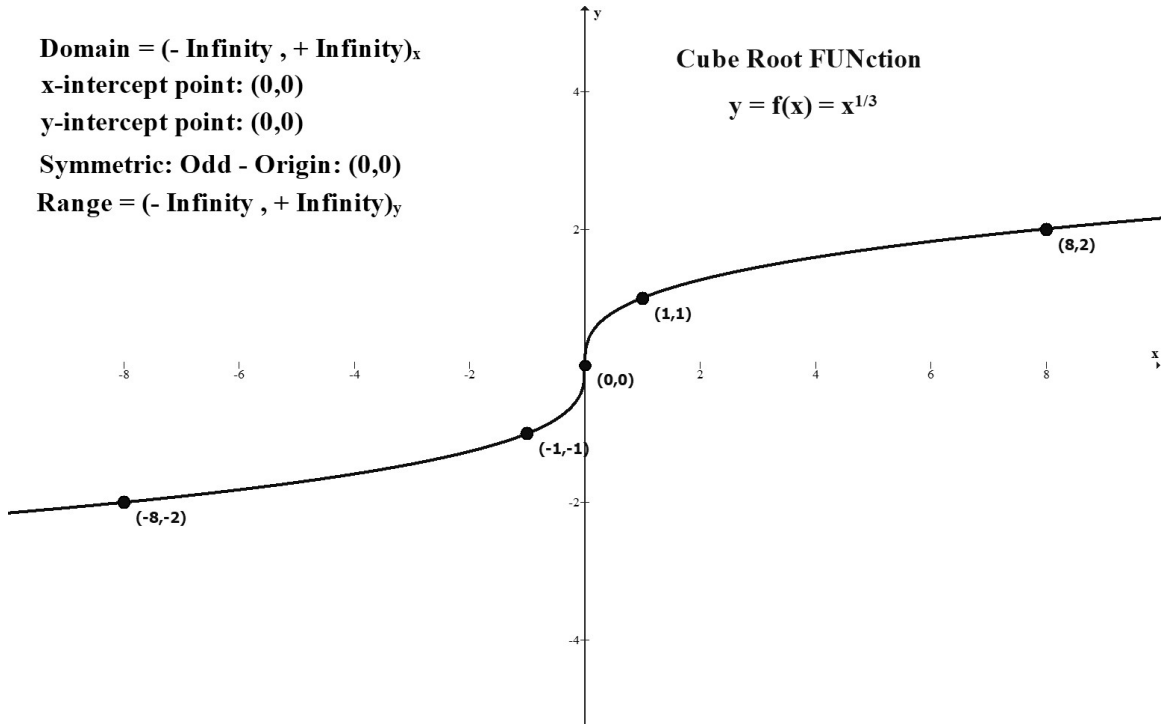
Domain =  $(-\infty, +\infty)_x$

x-intercept point:  $(0,0)$

y-intercept point:  $(0,0)$

Symmetric: Odd - Origin:  $(0,0)$

Range =  $(-\infty, +\infty)_y$



# Absolute Value FUNCTION:

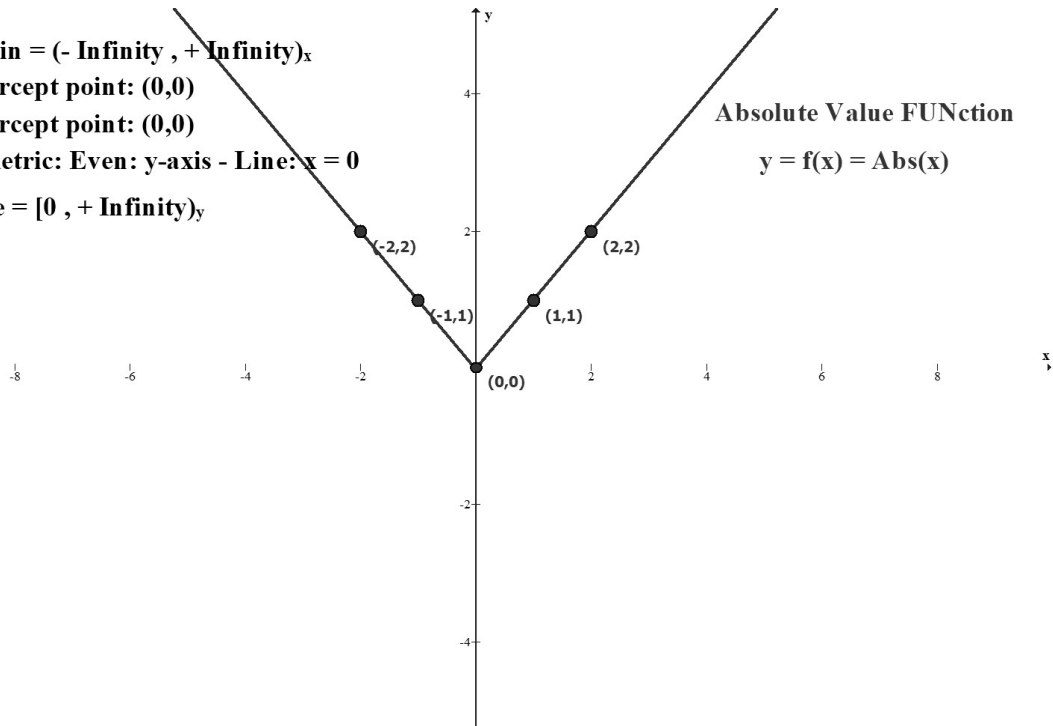
Domain =  $(-\infty, +\infty)_x$

x-intercept point:  $(0,0)$

y-intercept point:  $(0,0)$

Symmetric: Even: y-axis - Line:  $x = 0$

Range =  $[0, +\infty)_y$



# Reciprocal Identity FUNction:

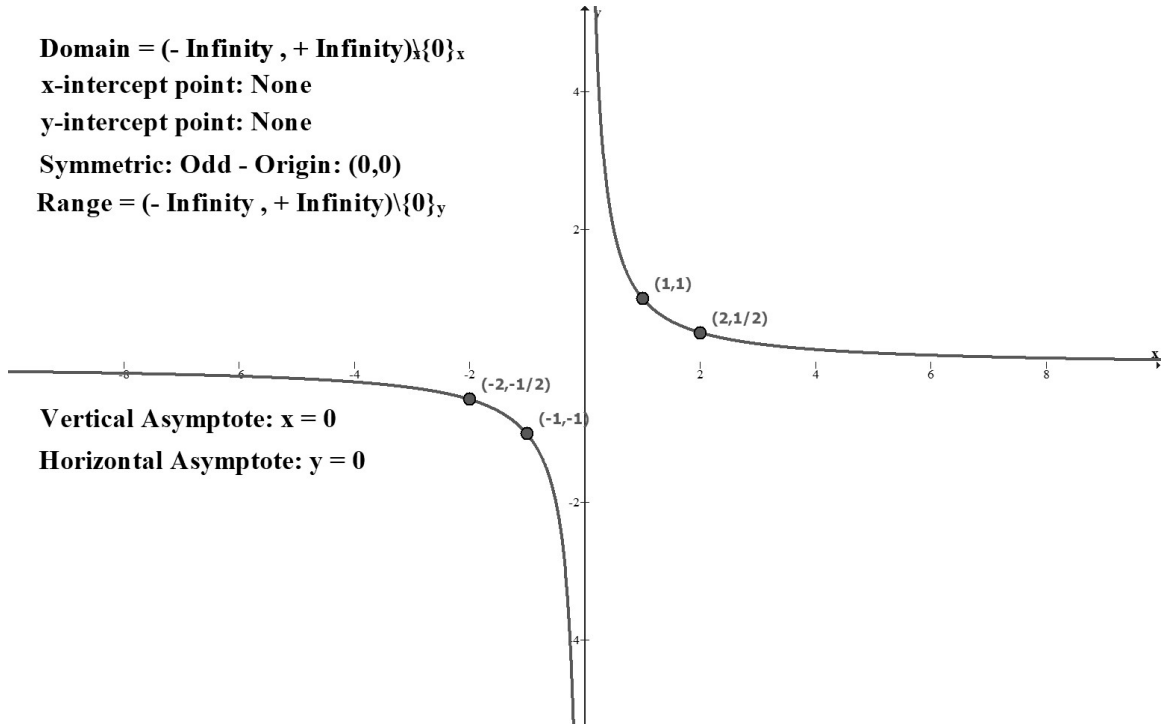
**Domain =  $(-\infty, +\infty) \setminus \{0\}_x$**

**x-intercept point: None**

**y-intercept point: None**

**Symmetric: Odd - Origin:  $(0,0)$**

**Range =  $(-\infty, +\infty) \setminus \{0\}_y$**



**Vertical Asymptote:  $x = 0$**

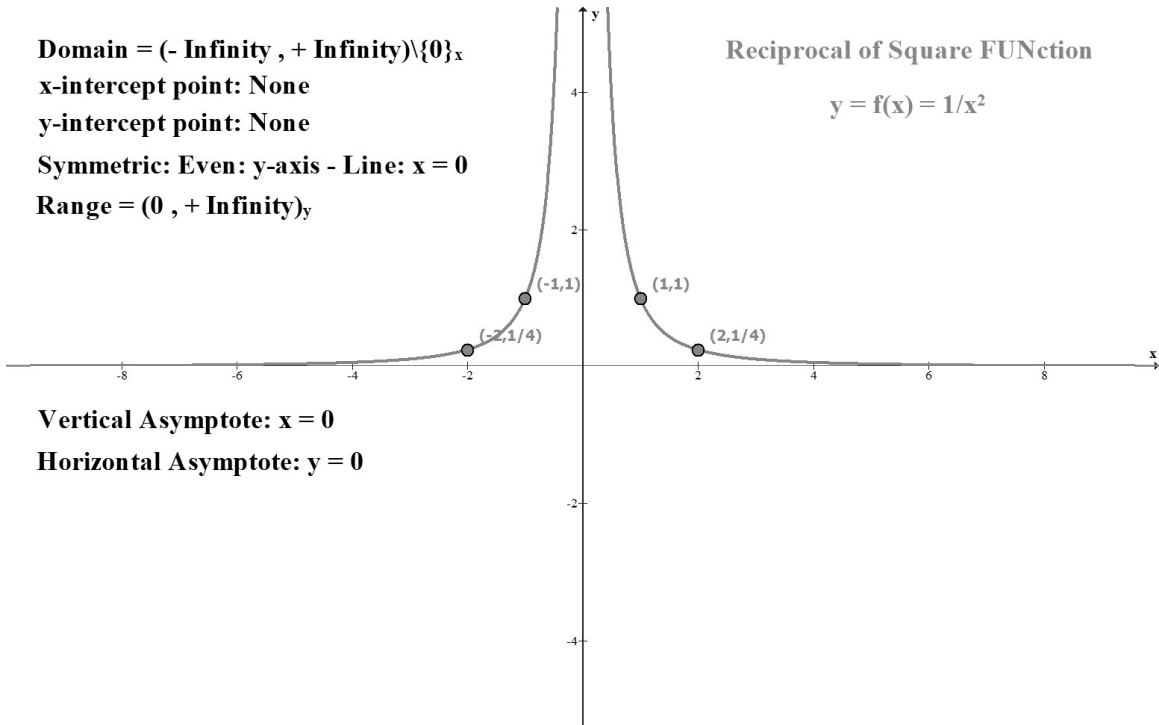
**Horizontal Asymptote:  $y = 0$**

# Reciprocal Square FUNction:

**Domain =  $(-\infty, +\infty) \setminus \{0\}$**   
**x-intercept point: None**  
**y-intercept point: None**  
**Symmetric: Even: y-axis - Line:  $x = 0$**   
**Range =  $(0, +\infty)$**

**Reciprocal of Square FUNction**

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



**Vertical Asymptote:  $x = 0$**   
**Horizontal Asymptote:  $y = 0$**





ERROR: undefined  
OFFENDING COMMAND:

STACK: