

Quadratic Graphs and Their Properties

Standard Form of a Quadratic Function

$$y = ax^2 + bx + c, a \neq 0$$

Examples: $y = 3x^2$ $y = x^2 + 4$ $y = 2x^2 - 3x + 1$

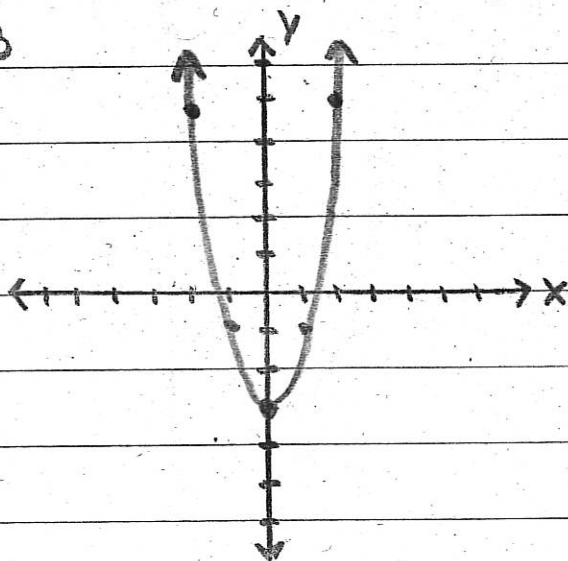
Quadratic Parent Function: $f(x) = x^2$ or $y = x^2$ 
Simplest quadratic function

Parabola: U-shaped curve of a quadratic function
(parabolas will have an axis of symmetry)

Graph the function. Then identify the domain and range.

$$y = 2x^2 - 3$$

x	y
0	-3
1	-1
-1	-1
2	5
-2	5



Domain: All
Real Numbers
Range: $y \geq -3$