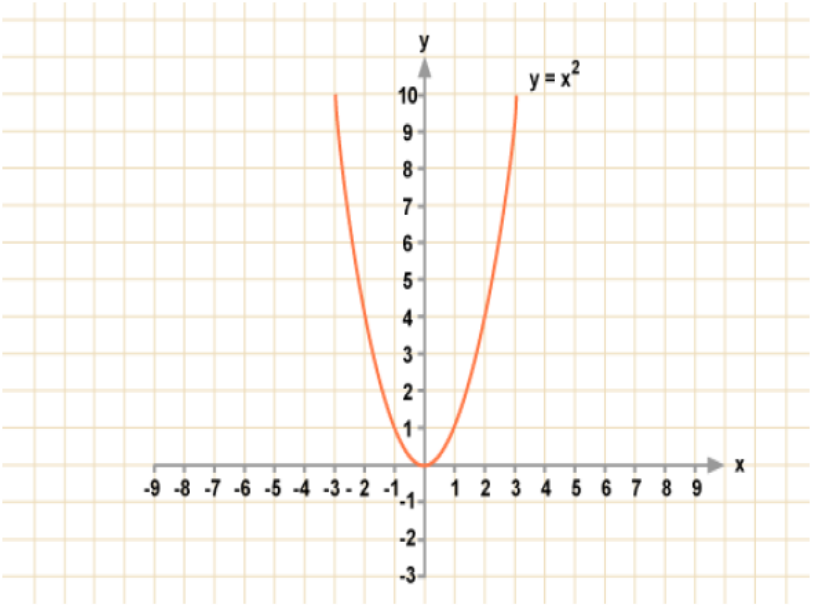
Quadratic Functions

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

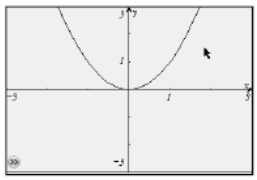


Domain: All real numbers

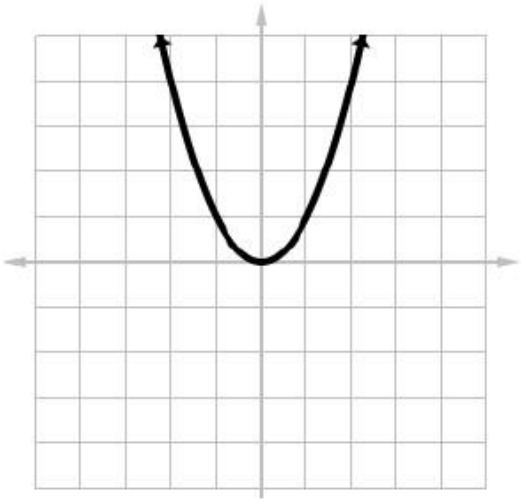
Range: $y \geq 0$

X – Intercept: (0, 0)

Y – Intercept: (0, 0)

Name of Parent Function	Graph of Function	Table of Values	Equation of Parent Function	Special Features or Characteristics
Quadratic Function		x | y -2 | 4 -1 | 1 0 | 0 1 | 1 2 | 4 3 | 9	$f(x) = x^2$	• Graph intersects the *y*-axis at (0,0) • Domain is all Real Numbers • Range is all Real Numbers ≥ 0

Quadratic Functions

Parent Function	Graph
$y=x^2$ Quadratic, Even Domain: $(-\infty,\infty)$ Range: $[0,\infty)$ End Behavior: $x \to -\infty, y \to \infty$ $x \to \infty, y \to \infty$ Critical points: $(-1,1), (0,0), (1,1)$	

Parent Function	Graph
$y = x^2$ **Quadratic**, Even Domain: $(-\infty,\infty)$ Range: $[0,\infty)$ End Behavior: $x \to -\infty, y \to \infty$ $x \to \infty, \quad y \to \infty$