Warm-Up

Pg. 2 : New Vocabulary GRoWTh chart

- Fill it in
- Glue into notes notebook.

New Vocabulary in GRoWTh

GRoWTh	Quadratic Function
Graph	
Rule	
o	
Words	
Table	
h	

Essential Skill 3: Quadratic Functions

LT 3.1 Graphing Quadratic Functions Using a Table

Why?

Motion: The path that a soccer ball or firework takes can be modeled by a quadratic function. Quadratic functions can map an object in motion. In this LT you will look at a pumpkin catapult, an amusement park ride, and a diver in motion.

Before ESK #3	After ESK #3
1. Graphed Linear Equation 　　$y = 5x + 3$ 2. Graphed Linear Inequalities 　　$y < 5x + 3$	1. Graph quadratic functions. 　　$f(x) = x^2 + 2x + 3$ 2. Solve quadratic equations. 3. Perform operations with complex numbers.

Motion: That path a soccer ball, a firework, a rocket, a catapult takes can be modeled by a quadratic function.

Learning Objective

I will be able to . . .

* Graph quadratic functions using a table.

* Find the y-intercept, the axis of symmetry, and the vertex of a quadratic function.

RULE: Quadratic Function in standard form

$$f(x) = ax^2 + bx + c, \text{ where } a \neq 0$$
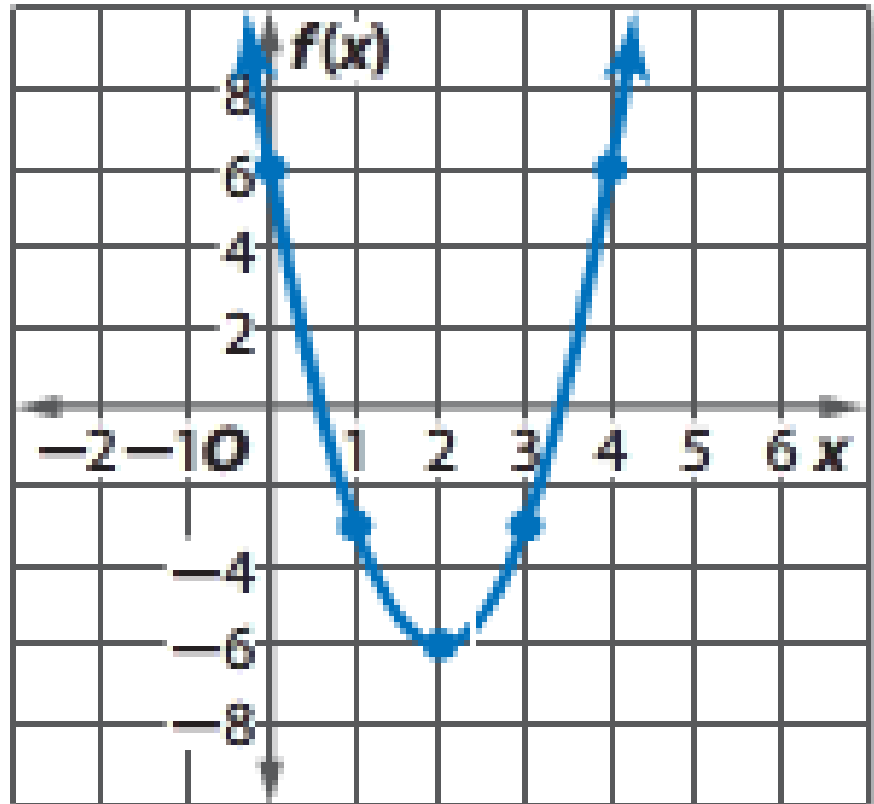
quadratic term   linear term   constant term

GRAPH: Quadratic Function
What does it look like?

Parabola

Graph Using a Table

Graph $f(x) = 3x^2 - 12x + 6$ by making a table of values.

x	$3x^2 - 12x + 6$	f(x)	(x, f(x))
-2			
-1			
0			
1			
2			
3			
4			

Graph Using a Table

Graph $f(x) = 3x^2 - 12x + 6$ by making a table of values.

Graph

Guided Practice

Graph each function by making a table of values

$$g(x) = -2x^2 + 8x - 3$$

x	$-2x^2 + 8x - 3$	g(x)	(x, g(x))

Guided Practice

Graph each function by making a table of values

$$h(x) = 4x^2 - 8x + 1$$

x	$4x^2 - 8x + 1$	h(x)	(x, h(x))