Name _____ Date _____ Class_____

Reteach

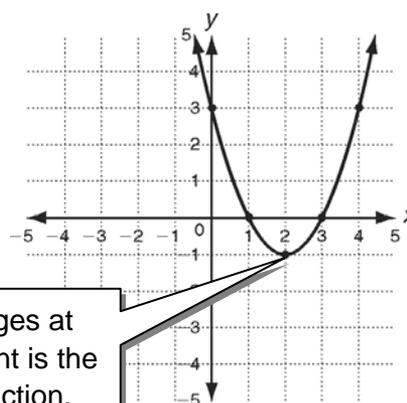## *Using Transformations to Graph Quadratic Functions*

The graph of a quadratic function is a parabola. A parabola is a curve shaped like the letter U.

Quadratic function $f(x) = a(x - h)^2 + k(a \neq 0)$

You can make a table to graph a quadratic function.

Graph $f(x) = x^2 - 4x + 3$.

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

Plot the ordered pairs from the table.

Sketch a smooth curve to connect the points.

The curve changes at $(2, -1)$. This point is the vertex of the function.

Complete the table. Use the ordered pairs to sketch the graph.

1. $f(x) = x^2 - 6x + 7$

x	$f(x) = x^2 - 6x + 7$	$(x, f(x))$
1	$f(1) = 1^2 - 6(1) + 7 = $ _____	
2	$f(2) = $	
3		
4		
5		

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