

Date: _____

Learning Goal

Reviewing Yesterday

Explain, in words, how you would graph a parabola in the form $y = ax^2 + k$.

Investigation

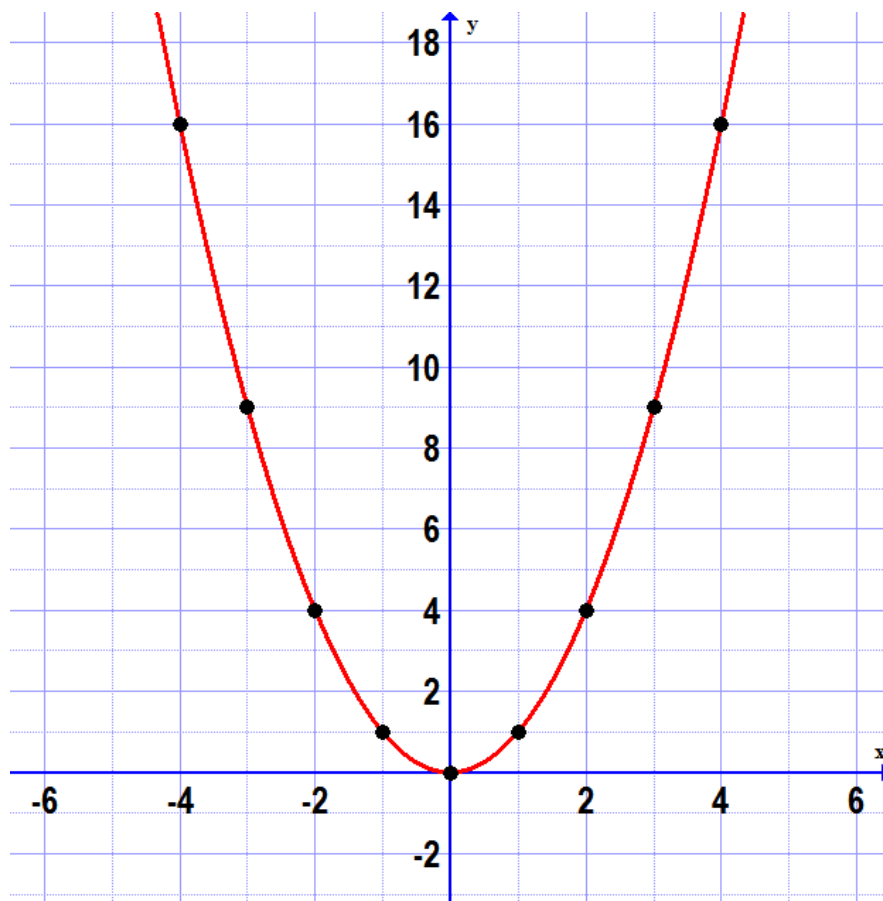
1. Open Desmos.
2. Graph $y = (x - h)^2$ and turn on the slider for h .
3. Play with the slider.
4. Explain what changing the value of h does to the parabola when h is positive and when h is negative.

Graphing $y = (x - h)^2$

Equation

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

Value of h : _____



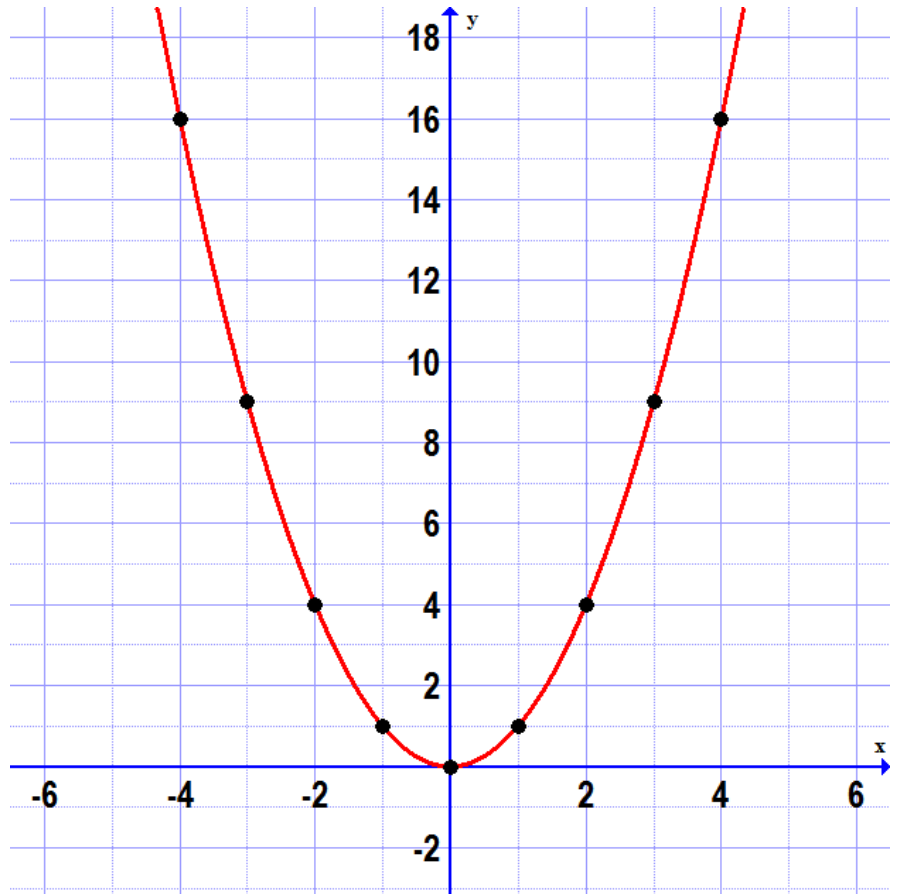
*Careful! The value of h can be tricky. Remember, that the form of the equation is $(x - h)$, so we are subtracting the value of h !

Graphing $y = (x - h)^2$

Equation

$$y = (x + 4)^2$$

Value of h : _____



The value of h shifts the parabola _____

when h is *positive* and _____ when

h is *negative*.

Crazy Old h !

For each equation below, state the value of h and whether the curve has been shifted to the left, or to the right. Or, come up with an equation to match the information given!

Equation	h	Shift
$y = (x - 3)^2$	3	Right 3
$y = (x + 1)^2$		
$y = (x + 7)^2$		
	9	
	-10	
		Left 4
		Right 6