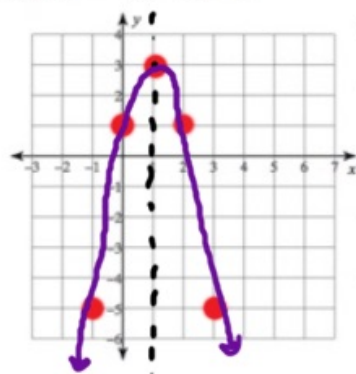


Math II

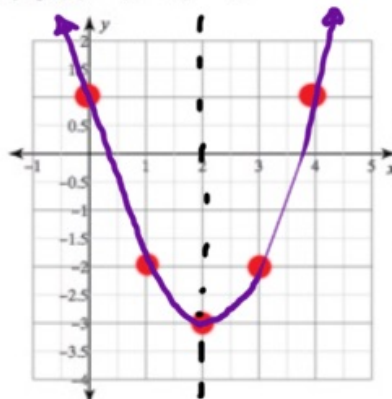
Graphing Quadratics in Vertex Form

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



- Up or Down? **Down**
- Coordinate of the Vertex? **(1, 3)**
- Line of Symmetry? **x = 1**
- Y - Intercept? **(0, 1)**
- Strategic Points?  
 **$-2(3-1)^2 + 3$  (3, -5)**

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

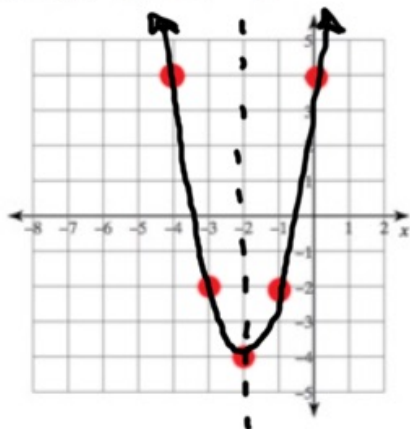


- Up or Down? **UP**
- Coordinate of the Vertex? **(2, -3)**
- Line of Symmetry? **x = 2**
- Y - Intercept? **(0, 1)**
- Strategic Points?  
 **$(1-2)^2 - 3$  (1, -2)  
 $(3-2)^2 - 3$  (3, -2)**

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



• Up or Down?

• Coordinate of the Vertex?  $(-2, -4)$

• Line of Symmetry?  $x = -2$

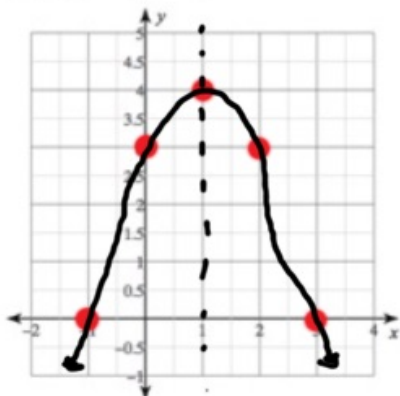
• Y - Intercept?  $(0, 4)$

• Strategic Points?

$$2(-1+2)^2 - 4$$

$$(-1, -2)$$

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



• Up or Down?

• Coordinate of the Vertex?  $(1, 4)$

• Line of Symmetry?  $x = 1$

• Y - Intercept?  $(0, 3)$

• Strategic Points?

$$-(3-1)^2 + 4$$

$$(3, 0)$$

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$y = a(x-h)^2 + k$

5)  $f(x) = x^2 - 4$        $(x-0)^2 - 4$

- Up or Down?
- Coordinate of the Vertex?  $(0, -4)$
- Line of Symmetry?  $x = 0$
- Y - Intercept?  $(0, -4)$
- Strategic Points?
 

$(1)^2 - 4$	$(2)^2 - 4$
$(1, -3)$	$(2, 0)$

Compare the graphs of #5 and #6. How do small changes in the function affect the graph?

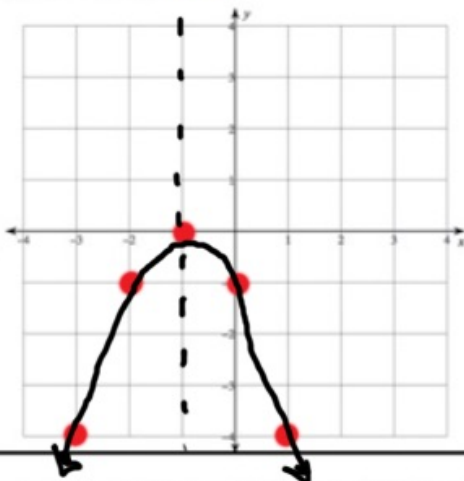
6)  $f(x) = (x-4)^2 + 0$

- Up or Down?
- Coordinate of the Vertex?  $(4, 0)$
- Line of Symmetry?  $x = 4$
- Y - Intercept?  $(0, 16)$
- Strategic Points?
 

$(2-4)^2$	$(-2)^2$
$(2, 4)$	$(-2, 4)$



7)  $f(x) = -(x+1)^2 + 0$

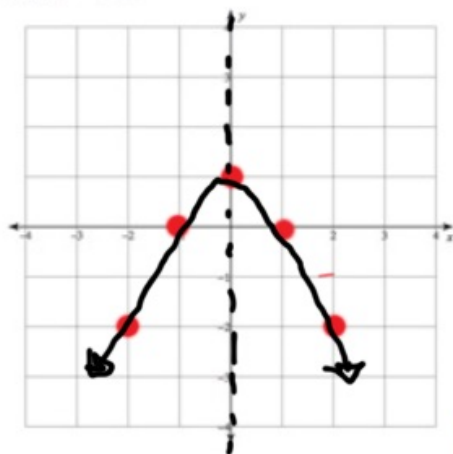


- Up or Down?
- Coordinate of the Vertex?  $(-1, 0)$
- Line of Symmetry?  $x = -1$
- Y - Intercept?  $(0, -1)$
- Strategic Points?  
 $-(1+1)^2$   $(1, -4)$

Compare the graphs of #7 and #8. How do small changes in the function affect the graph?

8)  $f(x) = -x^2 + 1$

$-(x-0)^2 + 1$



- Up or Down?
- Coordinate of the Vertex?  $(0, 1)$
- Line of Symmetry?  $x = 0$
- Y - Intercept?  $(0, 1)$
- Strategic Points?  
 $-(1)^2 + 1$   $-(2)^2 + 1$   
 $(1, 0)$   $(2, -3)$

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