

11 JAN 2019

Starter  
**No Calculator**  
 Sketch each function on the same graph. Make sure you plot at least 3 points for each function. Identify the vertex and the axis of symmetry.

1)  $y = x^2$  Vertex  $(0,0)$  AOS  $x=0$

2)  $y = 2x^2$  Vertex  $(0,0)$  AOS  $x=0$

3)  $y = \frac{1}{2}x^2$  Vertex  $(0,0)$  AOS  $x=0$

4) Given the  $y = ax^2$ , if  $a$  is negative what effect does this have on the parent graph?  
 A. Makes the parabola wider  
 B. Makes the parabola thinner  
 C. Makes the parabola move down  
 D. Makes the parabola open down

5) Given the  $y = x^2 - 3$ , what effect does  $-3$  have on the parent graph?  
 A. Makes the parabola wider  
 B. Makes the parabola thinner  
 C. Makes the parabola move down  
 D. Makes the parabola open down

### Calculator Instructions

Do this every time you get the calculator for the day.

1. 2<sup>nd</sup> + 7 1 2
2. 2<sup>nd</sup> 0 x<sup>-1</sup> DiagonisticOn  
enter enter
3. 2<sup>nd</sup> Window (change)  
Indpnt to ASK

Quadratics Graphing Calculator Notes

Given:  $y = -x^2 + 4x + 5$

Axis of symmetry  
 $X = 2$   
 $x \in \mathbb{R}$

Domain:  
 $x \in \mathbb{R}$

Range:  
 $y \leq 9$

y-intercept:  
 $(0, 5)$

Zeros/x-intercepts:  
 $(-1, 0)$  &  $(5, 0)$

Vertex:  
 $(2, 9)$

You try.

Given:  $y = x^2 - 7x + 10$

Axis of symmetry  
 $X = 3.5$   
 $x \in \mathbb{R}$

Domain:  
 $x \in \mathbb{R}$

Range:  
 $y \geq -2.25$

Vertex:  
 $(3.5, -2.25)$

Zeros/x-intercepts:  
 $(0, 10)$  &  $(5, 0)$

Graphing Quadratic Equations

Graph each equation on the same graph.

$y = x^2$  axis of symmetry \_\_\_\_\_ vertex \_\_\_\_\_

1)  $y = 3x^2$  axis of symmetry \_\_\_\_\_ vertex \_\_\_\_\_

$y = -3x^2$  axis of symmetry \_\_\_\_\_ vertex \_\_\_\_\_

