

1. State if each parabola opens up or down.

a) $y = -400x^2 + 6x + 89$ b) $f(x) = 2(x + 3)^2 - 1$ c) $y = -8x + .002x^2 - 5$

2. State if the vertex of each parabola is a Maximum or a Minimum.

a) $y = 55x^2 - 78x - 201$ b) $f(x) = -.15x^2 + 82x + 113$ d) $y = -5(x - 2)^2 + 3$

3. Use this quadratic function: $y = -2x^2 - 20x + 7$

The equation of the Line of Symmetry is $x = -5$

a) State the coordinates of the Vertex: b) What is the maximum value of this function?

c) When does this maximum value occur?

Standard Form of a Quadratic Function: $y = ax^2 + bx + c$

The equation for the Line of Symmetry can be found by using following formula:

LOS: $x = \frac{-b}{2a}$

4. State the equation of the Line of Symmetry and the coordinates of the Vertex for each parabola.

a) $y = x^2 + 10x - 1$ b) $y = -3x^2 - 24x + 7$

LOS:

LOS:

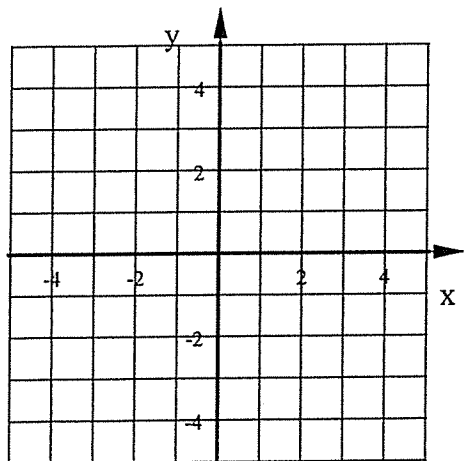
Vertex:

Vertex:

5. One way to graph a parabola using five points is to follow these steps:

- Find the coordinates of the vertex and plot this point.
- Draw the Line of Symmetry (LOS).
- Find the y-intercept by making $x = 0$. Plot this point on the y-axis and reflect it over the LOS.
- Set up a table to find one more point by using an x-value near the Line of Symmetry. Plot this point and reflect over the LOS to get the fifth point.

Graph the quadratic $y = 2x^2 + 8x + 3$



X	Y