

## Round Table

1) What will the axis of symmetry be for the parabola?

(Hint:  $x = \frac{-b}{2a}$ )

$$y = x^2 - 2x + 1$$

$$a=1 \quad b=-2 \quad c=1$$

$$x = \frac{2}{2(1)} = \frac{2}{2} = 1$$

Axis of Symmetry:

$$x = \underline{1}$$

2) Find the Vertex for the equation:

Hint:  $\left(\frac{-b}{2a}, f\left(\frac{-b}{2a}\right)\right)$

$$y = x^2 - 2x + 1$$

$$1 - 2(1) + 1$$

$$1 - 2 + 1 = 0$$

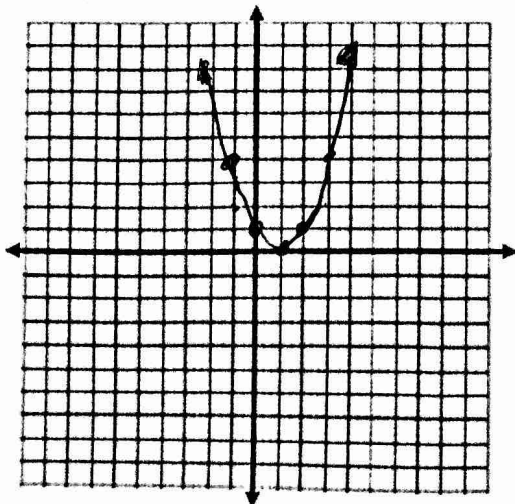
Vertex:  $(1, 0)$

Based on the equation, will the vertex be a maximum or a minimum?

Minimum

2) Algebraically fill in the table below and plot the points to graph the equation. (Include the axis of symmetry as a dashed line)

x	y
-1	4
0	1
1	0
2	1
3	4



4) What is the Domain and Range of the graph?

Domain:  $\mathbb{R}$

Range:

$$y \geq 0$$

5) The path of a ball follows the equation  $h(t) = -4.9t^2 + 30t + 3$ , where  $t$  is the time in the air (in seconds) and  $h(t)$  is the height of the ball.

$$(3.06, 48.99)$$

Using your graphing calculator find the vertex:

What is the maximum height that the ball reaches?  $48.99$

How long does it take to reach the maximum height?  $3.06$  seconds

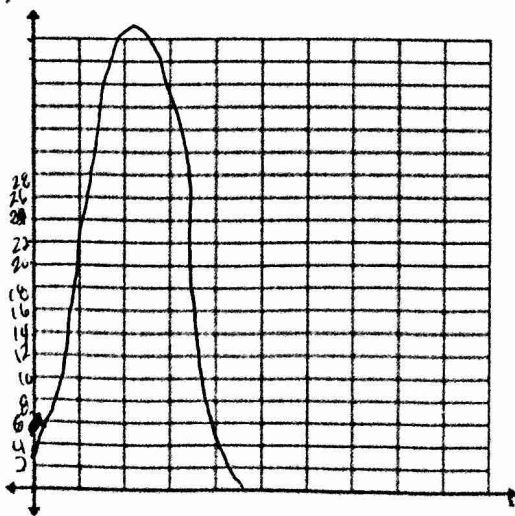
6) What will the axis of symmetry be for the parabola?

Axis of Symmetry:

$$x = \underline{48.99}$$

7) Use your graphing calculator to fill in the table below and plot the points to graph the equation. (Include the axis of symmetry as a dashed line)

x	y



8) What is the Domain and Range of the graph?

$$\text{Domain: } x \geq 0, x \leq 6.5$$

$$\text{Range: } y \geq 0, y \leq 48.99$$