

Intermediate Algebra A
L.T. 4.1 A - B

Name Key Period _____

ROUND TABLE

1) Find the Vertex for the equation:

$$y = x^2 - 4x + 3$$

Hint: $(\frac{-b}{2a}, f(\frac{-b}{2a}))$ $a=1$ $b=-4$ $c=3$

Based on the equation, will the vertex be a maximum or a minimum?
~~Max~~ **Min**

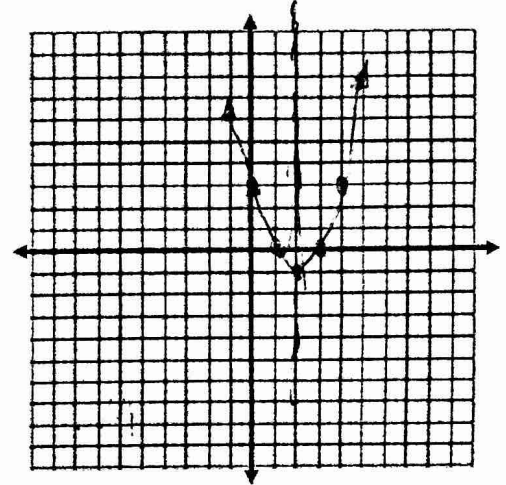
Find the vertex:

$$x = \frac{4}{2(1)} = \frac{4}{2} = 2$$

$(2, -1)$

2) From #1: Fill in the table below and plot the points to graph the equation. (Include the axis of symmetry as a dashed line)

X	Y
0	3
1	0
2	-1
3	0
4	3



3) From #1:

Identify:

Axis of Symmetry: $x=2$

Y-intercept: ~~(0, 3)~~ $(0, 3)$

Domain: \mathbb{R} Range: $y \geq -1$

4) Find the x-intercepts and the vertex for:

$$y = (x + 5)(x - 1)$$

x-intercepts: $(-5, 0)$ $(1, 0)$

Vertex: $(-2, -9)$

$$x = \frac{-5+1}{2} = \frac{-4}{2}$$

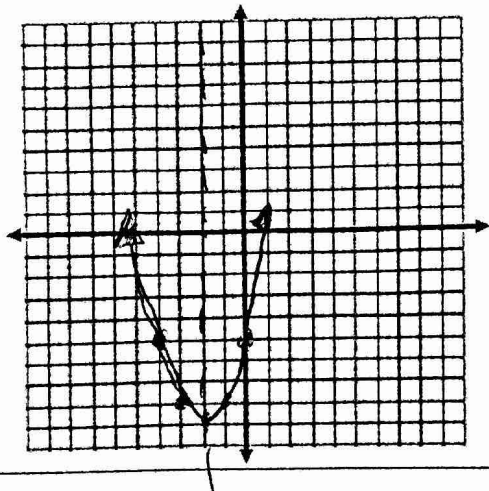
$$0 = (x+5)(x-1)$$

$$x+5=0 \quad x-1=0$$

$$x = -2$$

5) From #4: Fill in the table below and plot the points to graph the equation. (Include the axis of symmetry as a dashed line)

X	Y
-4	-5
-3	-8
-2	-9
-1	-8
0	-5



6) From #4:

Identify:

Axis of Symmetry: $x=-2$

Y-intercept: $(0, -5)$

Domain: \mathbb{R} Range: $y \geq -9$

Round Table

Partner A _____ Partner B _____

1. Find the Vertex for the equation:

$$y = -(x - 3)^2 - 6$$

Vertex: (3, -6)

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

~~Min~~ Max

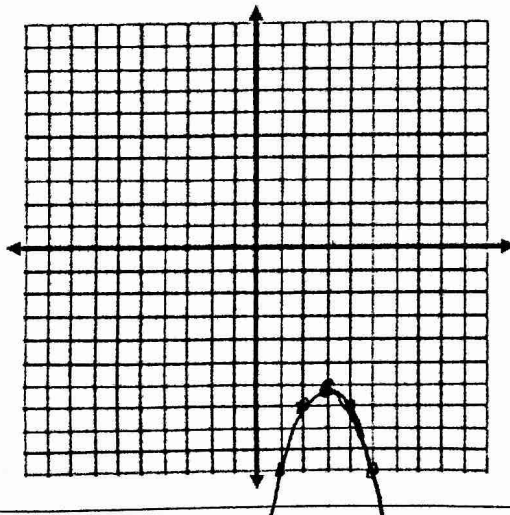
2. What will the axis of symmetry be for the parabola?

Axis of Symmetry:

$$x = \underline{3}$$

3. 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	-10
2	-7
3	-6
4	-7
5	-10



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

Domain: ~~ℝ~~ ℝ

Range: ~~ℝ~~ $y \leq -6$