

## 4.2 Review / Warm-up

1. Graph the quadratic function by first finding the axis of symmetry and vertex.
2. Make a table of values
3. Tell whether the graph will open up or down.

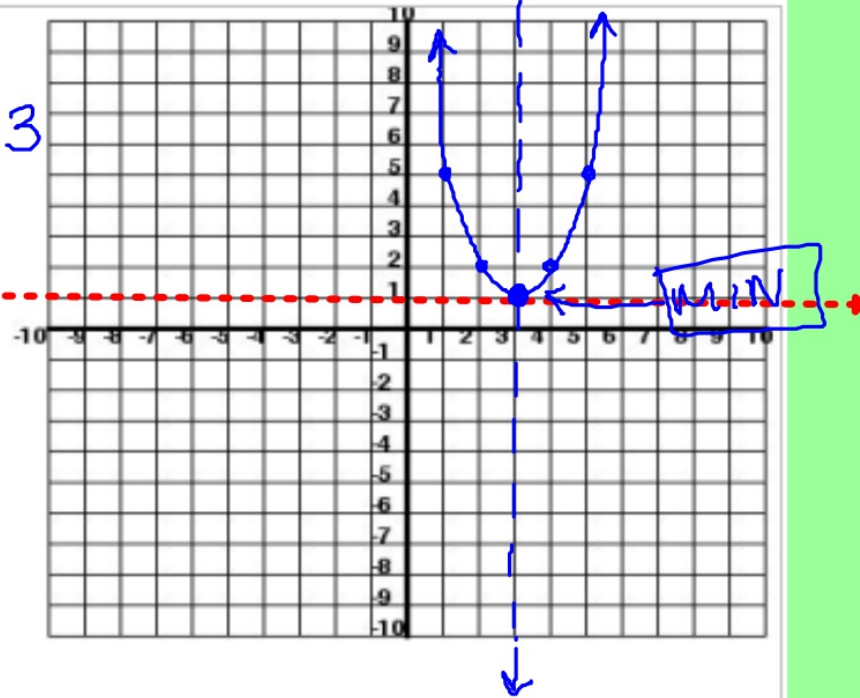
Example #1:  $y = x^2 - 6x + 10$

| x | y |
|---|---|
| 5 | 5 |
| 4 | 2 |
| 3 | 1 |
| 2 | 2 |
| 1 | 5 |

$$a=1 \quad b=-6$$
$$x = \frac{-b}{2a} = \frac{-(-6)}{2(1)} = \frac{6}{2} = 3$$

Domain:  $\mathbb{R}$

Range:  $\mathbb{R} \geq 1$



$$a = -1 \quad b = -4$$

Example #2:  $y = -x^2 - 4x - 3$

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

Domain:  $\mathbb{R}$

Range:  $\mathbb{R} \leq 1$

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

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

$(-2, 1)$

