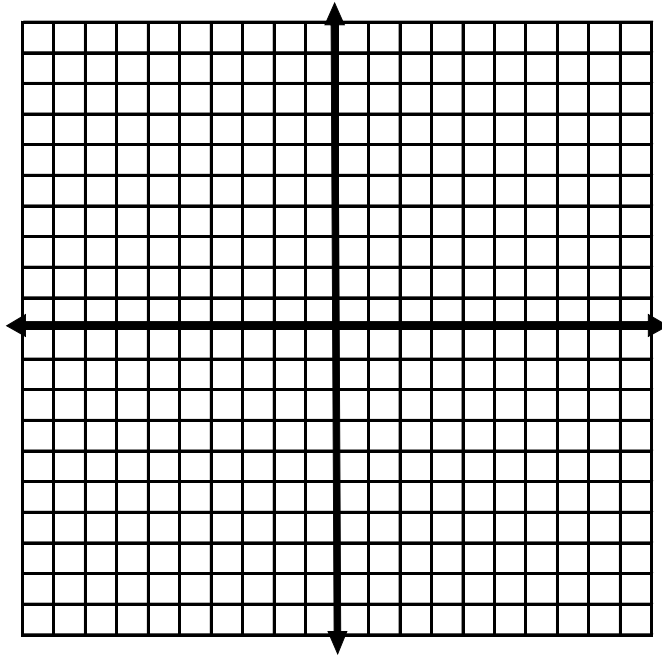


8 Algebra CC Zoom #6 – Unit 15 (Quadratic Functions)

1)

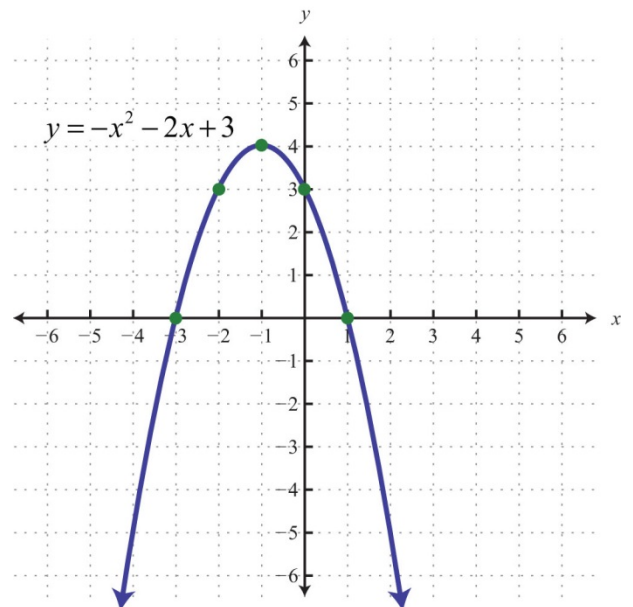
- Graph $y = x^2 - 2x - 3$.
- Determine the coordinates of the vertex. _____
- State whether the vertex is a *maximum* or a *minimum* point. _____
- State the equation of the axis of symmetry _____
- State the **roots** of the parabola. _____
- State the **y-intercept**. _____
- State the **domain** of the function. _____
- State the **range** of the function. _____
- State the *interval* for which the function is **increasing**. _____
- State the *interval* for which the function is **decreasing**. _____
- Describe the **end behavior** of the function. _____

x	y



2) Examine the function pictured below and complete a – d.

- State the *interval* for which the function is **increasing**. _____
- State the *interval* for which the function is **decreasing**. _____
- State the **range** of the function. _____
- State the y-intercept. _____



Quadratic Functions can be written in different forms.

Standard Form

$$y = ax^2 + bx + c$$

c: y-intercept

Factored Form

$$y = a(x - r_1)(x - r_2)$$

Roots: $\{r_1, r_2\}$

Vertex Form

$$y = a(x - h)^2 + k$$

Vertex: (h, k)



Rewrite the quadratic functions in **factored form** and in **vertex form**.

State the **zeros** and the **vertex** of the function.

$y = x^2 - 2x - 3$	$y = x^2 - 18x + 40$
<p>Factored Form</p> <p>Zeros: _____</p>	<p>Factored Form</p> <p>Zeros: _____</p>
<p>Vertex Form</p> <p>Vertex: _____</p>	<p>Vertex Form</p> <p>Vertex: _____</p>