Algebra 2

2-02 Graph Quadratic Functions in General and Intercept Form (2.2)

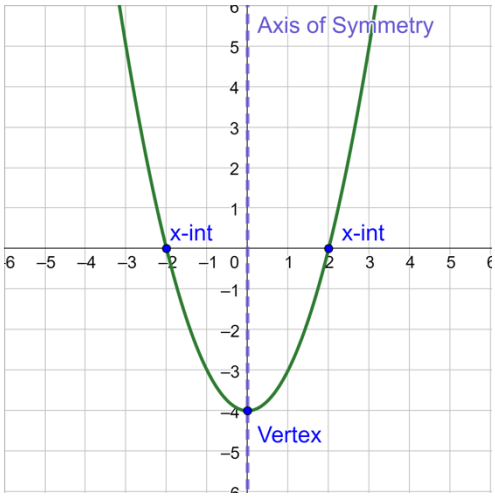
Intercept form

- $y = a(x - p)(x - q)$
  where p and q are the _____.
- Axis of symmetry is _____ between the x-intercepts.

$$x = \frac{p + q}{2}$$

- _____

$$\left(\frac{p + q}{2}, f\left(\frac{p + q}{2}\right)\right)$$



General Form

- $y = ax^2 + bx + c$
- The _____ of symmetry is

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

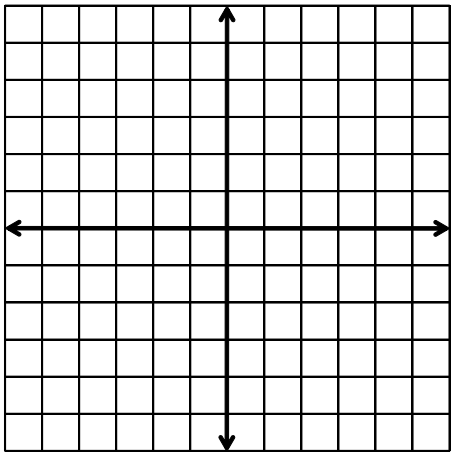
- _____

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

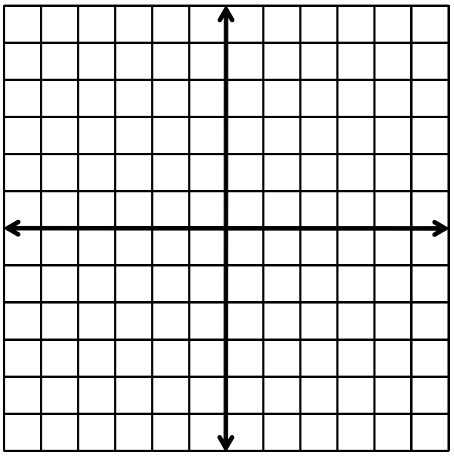
Graph a Quadratic Function

1. Find the _____ of symmetry and _____.
2. Make a _____ using points on either side of the axis of symmetry.
3. _____ the points from the table.
4. _____ the parabola through the points.

Graph $y = -2(x + 2)(x - 3)$



Graph $y = x^2 - 2x - 3$

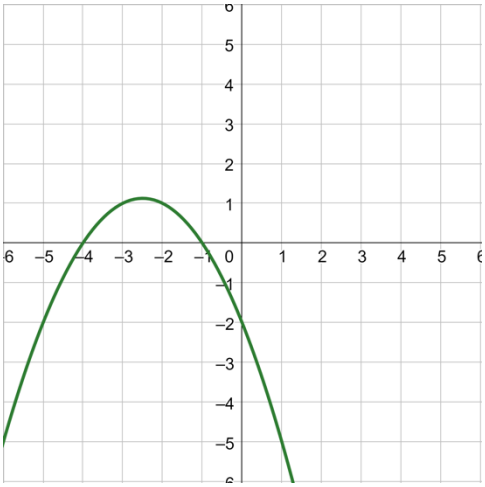


Write a Quadratic Function in Intercept Form

1. Find the _____. These are p and q.
2. Find _____ other point that the graph passes through. This is _____.
3. Substitute the _____ for p and q in intercept form $y = a(x - p)(x - q)$.
4. Substitute the point for _____.
5. Solve for _____.
6. Write the _____ by substituting p, q, and a into intercept form.

Write the quadratic function whose x-intercepts are -3 and 7 and passes through (0, 21).

Write the quadratic function given in the graph.



59 #17, 19, 21, 23, 29, 45, 47, 49, 50, 65, and 76 #7, 9, 11, 15, 17, and Mixed Review = 20