Week 3 Day 1 Notes



The graph formed is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which is always in a \_\_\_\_\_ shape!

**3 forms of a quadratic**:

Standard - y = ax2 + bx + c

Vertex -  y = a(x - h)2 + k

Intercept - y = a(x - p)(x - q)

Besides x, what variable do ALL three forms have in common?

**Min/Max**

\*If "a" is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the graph has a \_\_\_\_\_\_\_\_\_\_\_\_\_ value  (graph opens \_\_\_\_\_\_)

\*If "a" is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the graph has a \_\_\_\_\_\_\_\_\_\_\_\_\_ value  (graph opens \_\_\_\_\_\_)

*Which way would these quadratics open up?*

*Will the graph have a min or max?*

Ex 1. y = 2x2 - x - 7

Ex 2. y = -(x + 5)2 - 9

Ex 3. y = 3(x + 2)(x + 7)

**Vertex**:

\*The \_\_\_\_\_\_\_\_\_\_\_ of the parabola is the highest (maximum) or lowest (minimum) \_\_\_\_\_\_\_\_\_ on the graph.

\*The vertex's \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the MAXIMUM or MINIMUM value of the graph (\_\_\_\_\_\_\_\_).

\*The vertex's \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (\_\_\_\_\_\_\_).



\* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -

The \_\_\_\_\_\_\_\_\_\_\_ line that divides the parabola into

mirror images through the \_\_\_\_\_\_\_\_\_\_\_

**x-intercepts**

The x-intercepts of ANY function are the point(s) where the graph of the function crosses \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***\*For a x-intercept, the y-value of the point is \_\_\_\_\_!\****



**Zeros/Roots**

The zeros/roots of ANY function are the

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the function written

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**y-intercepts**

The y-intercepts of ANY function are the point(s) where the graph of the function crosses \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***\*For a y-intercept, the y-value of the point is \_\_\_\_\_!\****

If you can't identity the y-intercept on the graph, plug in\_\_\_\_\_\_ for \_\_\_\_ and \_\_\_\_\_\_\_ for \_\_\_\_.

**EXAMPLES**: