**2.7–Absolute Value Functions and Graphs**

**Graphing Absolute Value Functions**;

Parent Graph:

Transformation/Translation

* Vertex: (h, k)
* Line of Symmetry: x = h
* a = SLOPE of graph RIGHT of the line of symmetry
* The graph is V-shaped

(Symmetric about line of symmetry)

* Opens up if a > 0 and down if a < 0

*GeoGebra Example*

**Steps to Graphing Absolute Value Functions**:

1. Graph the vertex (h, k)
2. Plot 1 point to the right of the line of symmetry using slope = a
3. Plot the corresponding symmetric point on the left side of the line of symmetry
4. Complete the graph

Examples:

*Graph the function.*







[**Graphing Absolute Value Functions**](http://www.geogebra.org/en/upload/files/english/Duke/absolutevalue/absolutevalue.html);

:

* If , then the graph of  is *wider*
* If , then the graph of  is *narrower*

**Steps to Graphing Absolute Value Functions**:

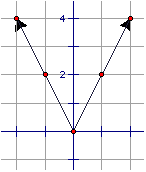
1. Graph the vertex
2. Plot two points to the right of vertex using “slope” = a
3. Plot the corresponding symmetric points to the left of vertex
4. Complete the graph

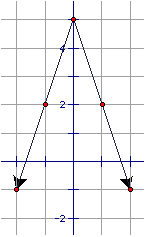
*Examples: Graph the following*

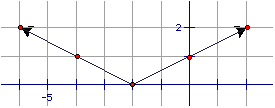


*Write the equation of the graph shown:*







**HMWK: pg 110 #11-19, 29, 33-35**