Algebra II Worksheet on Absolute Values Using the Free Math Add-In Within *Word 2007*

1. Using the ‘*Plot in 2D’* command, graph each and label the vertex of the “Vee.” Pay close attention to the pattern that is trying to emerge.

1a)

1b)

1c)

1d)

1e)

1f)

2. The following graph uses the ‘*Animate’* command. Draw three distinct graphs using the ‘*Plot in 2D’* command. For each graph, include the values of the free parameters *a*, *b*, and *c* and label the vertex. At least one of your graphs needs to be an inverted “Vee.”

3. If the equation contains a single pair of absolute value symbols, then the resulting graph will resemble one “Vee.” What happens with two absolute values? Graph each of these using the ‘*Plot in 2D’* command. Label all of the vertices.

3a)

3b)

3c)

3d)

3e)

3f)

4. Consider the graphs generated with the equations in 3d and 3e.

4a) For the graph of 3d, locate the point *(0, 4)*. What happens when you plug *(0, 4)*, the coordinate point, back into the original equation? Do you get equality?

4b) What happens when you plug *(0, -4)*, the coordinate point, back into the original equation? Do you get equality?

5. Find two points on the graph of 3e that do not check.