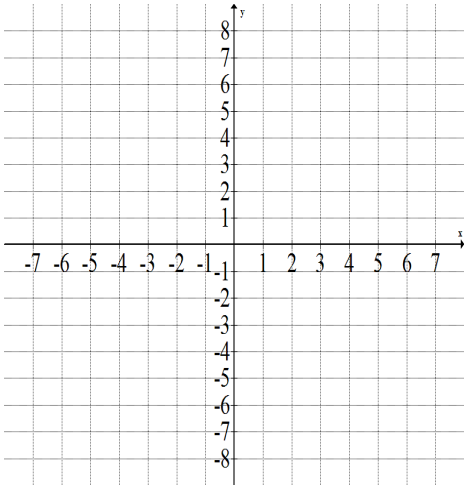
Name: _____

D0 - Introduction to Transformations – Parabolas

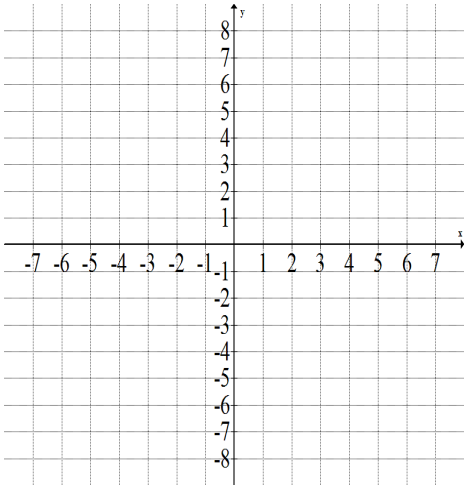
1.) What happens to a parabola's graph when you change the numbers in the equation?

a. On the graph below graph y = (x -2)(x – 2). Label all of the important points (x and y intercepts and the vertex).



b. Use graphing calculator or desmos to find the equations of two parabolas with different graphs that also open upwards and have a vertex at (2,0). Record all equations that you try below and then put a box around the two that work.

c. Use graphing calculator or desmos to find the equations of two different parabolas that open downward, each with its verted on the x-axis at x = 2. Record how you changed the equation so that it opened downward. Then add the sketches of these graphs and their equations below.



d. Use graphing calculator or desmos to find the equation of a parabola that opens downward with a vertex at (-4,0). What is the equation of your parabola's line of symmetry?

e. Choose a now point on the x – axis and find at least three equations of parabolas that touch the x – axis at only one point.