Name: _____ Period: _____ Date: _____

The Parabola Game! (Vertex form edition)

Using Safari, visit this address:

   http://www.desmos.com/calculator/jzuk2b4arg

This brings up a quadratic function in vertex form. You can adjust h, k, and a by using the sliders. Play with them a little to see how they change the parabola. There are also three marked points with circles drawn around them. Those circles are your targets.

Drag the points to (-2, 4), (-2, 2), and (0, 1). Then adjust the sliders so that the parabola passes through all three circles. Keep in mind that the vertex doesn't have to be one of the marked points!

It might help to "turn off" the point markers by touching the folder icon next to the word "Points" on the left side. This will show JUST the target circles. You should be able to do all of these with the "default" zoom level – touch the double-arrow icon in the upper-right and choose "default".

Got it? Try to do the ones below...

Create a parabola that goes through these points...

1) (0, 0), (-3, 1), and (8, 6)

2) (-4, 4), (1, 3), and (3, 1)

3) (-5, 3), (1, 3), and (2, -2)

4) (-2, 5), (-1, 2), and (2, -2)

5) (-2, 2), (2, 5), and (4, -7)

6) (1, 1), (1, -1), and (4, -7)

7) (-1, 6), (4, -3), and (5, 1)

8) (7, -6), (1, 2), and (2, 3)

9) (7, -1), (7, -4), and (7, -6)

10) (7, -1), (0, -1), and (-2, -1)

Honors...

For these, you'll need to change the range of the "a" slider so you can get finer control. Touch the "gear" button above the formulas to access the sliders setup.

11) (-8, -2), (-7, 1), and (1, 1)

12) (-8, -2), (2, 2), and (1, 1)