**Directions: Show all the associated work for each problem to receive full credit. All calculations should be brought out to AT LEAST the thousandths place.**

**Replace the image below with a screenshot of your DESMOS graph.**



**INSERT A COPY OF YOUR GRAPH HERE!**

Given the above function, with vertex ( \_\_\_\_\_, \_\_\_\_\_ ), and a point ( \_\_\_\_\_, \_\_\_\_\_ ):

1. Show me you know how to find the a-value for the vertex form of a quadratic equation.
2. Write your function in vertex form.
3. Using your function from #2, put your equation into standard form.
4. Using the standard form of your function, convince me you know how to calculate the vertex from the equation.
5. Convince me you know how to calculate the roots of the function algebraically (i.e. not graphically).
6. Based on the work you’ve done so far, write your function in factored form.