**3.4 Activity**

1. Describe what happens to the graph of  in the following situations.
	1. x is replaced with .
	2. x is replaced with –x.
	3. x is replaced with 3x
	4. y is replaced with .
2. Describe the transformations of the absolute value function. Use the example to help you with b.
Example: 
Solution: Solve the equation for y, then describe the transformation.

Multiplying both sides by 2 gives us 

Subtracting 5 from both sides gives us 

We can now describe the translations we see in the resulting equation. This equation shows a vertical stretch by 2, a reflection across the x-axis, a movement left of 1 unit, and a movement down of 5 units.
	1. 
	2. 
3. Assume that the parabola is translated so that its vertex is (5, -4).
	1. If the parabola is stretched vertically by a factor of 2, what are the coordinates of the point on the parabola 1 unit to the right of the vertex?
	2. If the parabola is stretched horizontally instead, by a factor of 3, what are the coordinates of the points of the parabola 1 unit above the vertex?
	3. If the parabola is stretched vertically by a factor of 2 and horizontally by a factor of 3, name two points on the new parabola that are symmetric with respect to the vertex.