Show Step by Step Parts of Transformations

1. $f(x) = 2x^2 - 3x$

   a. Translate 2 units Left

   $f(x) = 2(x+2)^2 - 3(x+2)$

   $f(x) = 2(x^2 + 4x + 4) - 3x - 6$

   $f(x) = 2x^2 + 8x + 8 - 3x - 6$

   $\boxed{f(x) = 2x^2 + 5x + 2}$

   b. Compress the result in part a Horizontally by 1/3.

   $f(x) = 2(3x)^2 + 5(3x) + 2$

   $f(x) = 2(9x^2) + 15x + 2$

   $\boxed{f(x) = 18x^2 + 15x + 2}$

   c. Reflect the result in part b across the y-axis.

   $f(x) = 18(-x)^2 + 15(-x) + 2$

   $\boxed{f(x) = 18x^2 - 15x + 2}$

2. $f(x) = 2\left|x^2 + x - 3\right|$

   a. Reflect about the x-axis.

   $\boxed{f(x) = -2\left|x^2 + x - 3\right|}$

   b. Reflect the result in part a about the y-axis.

   $f(x) = -2\left|(-x)^2 + (-x) - 3\right|$

   $\boxed{f(x) = -2\left|x^2 - x - 3\right|}$

   c. Translate the result in part b 5 units Down

   $\boxed{f(x) = -2\left|x^2 - x - 3\right| - 5}$

3. $f(x) = \sqrt{4x + 6}$

   a. Stretch Vertically by a factor of 2.

   $\boxed{f(x) = 2\sqrt{4x + 6}}$

   b. Stretch Horizontally by a factor of 2.

   $f(x) = 2\sqrt{4\left(\frac{1}{2}x\right) + 6}$

   $\boxed{f(x) = 2\sqrt{2x + 6}}$

Algebra 2A Assignment 106 Wednesday, September 16, 2015 Hour Name

Show each step in each transformation and simplify your results

1. $f(x) = x^2$

   a. Translate 3 units Right.

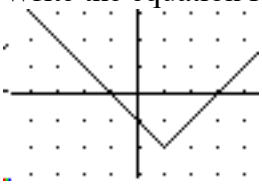
   b. Horizontally Compress the result from part b by 1/3.

   c. Reflect the result from part b about the y-axis.

   d. Reflect the result from part c about the x-axis.

   e. Translate the result in part d 1 unit up.

2. Write the equation for the graph below.



3. Write the equation for the Horizontal Compression of the graph in #2 by a 1/3.

4. Write the equation for the graph below.