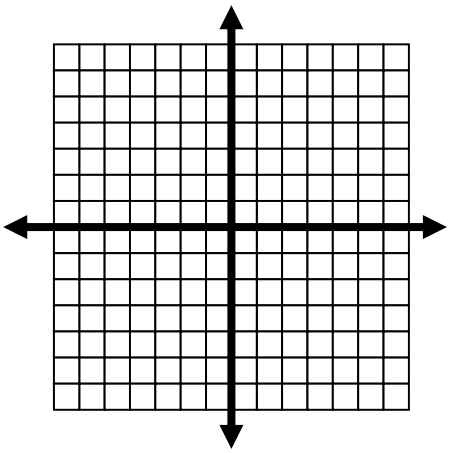
Name:_____Date:_____Period:_____

Chapter 2 Enrichment **SHOW ALL WORK!!!**

1. Write the equation $-8x - 12y = 24$ in slope-intercept form.



   a. What is the slope of the line?

   b. What is the y-intercept?

   c. Graph the line.

2. Consider the function $y = 4|x - 3| + 1$

   a. State the vertex.

   b. Determine the axis of symmetry.

   c. Determine the *x*- and *y*- intercepts if there are any.

   d. Determine the transformations from the parent function $f(x) = |x|$.

3. Suppose the equation $y = 12 + 10x$ represents the amount of money you have in your wallet, where y is the amount in dollars and *x* is the number of weeks from today.

   a. What does the slope represent in this situation?

   b. What does the *y*-intercept represent in this situation?

   c. Is the equation in slope-intercept form? If not, write the equation in slope intercept form.

   d. Determine how much money you will have in your wallet after eight weeks.

4. The equation $e = 1000 - 12m$ represents Mariah's elevation e in feet for each minute m she hikes on Laurel River Canyon.

    a. What does the slope represent in this equation?

    b. What does the y-intercept represent in this situation?

    c. Is Mariah hiking uphill or downhill? Explain.

    d. Solve the equation to determine after how many minutes will Mariah 640 feet.

5. Create your own function for the transformation of $f(x) = |x|$ that has been reflected in the *x*-axis, translated 3 units up, translated to the left 4 units and vertically compressed by a factor of $\frac{1}{3}$.