Day 1, Assignment 4 Algebra Refresher Activity

Complete the following math problems and show your work/problem solving process. Correct answers are included so that you may check your work. Send your completed assignment to your ISM

1) The original function is $f(x) = 0.5x + 2$. The new function, $g(x)$ is the equation of $f(x)$ after a reflection across the y-axis and a vertical stretch with a constant of 2.5.
What is the equation of $g(x)$?

2) What type of function does the following table create? What is the shape of its graph?

x	y
-1	3
0	2
1	3
2	6

3) Maria orders T-shirts for her volleyball camp. Adult-sized T-shirts cost $6.25 each and youth-sized T-shirts cost $4.50 each. Maria has $550 to purchase both adult-sized and youth-sized T-shirts. If she purchases 45 youth-sized T-shirts, determine algebraically the maximum number of adult-sized T-shirts she can purchase.

4) The math department needs to buy new textbooks and laptops for the computer science classroom. The textbooks cost $116.00 each, and the laptops cost $439.00 each. If the math department has $6500 to spend and purchases 30 textbooks, how many laptops can they buy?

5) Solve algebraically for x: 3600 + 1.02x < 2000 + 1.04x

Answers:

1) y = -1.25x + 5

2) quadratic, parabola

3) The maximum number of adult-sized T-shirts Maria can order is 55

4) The math department can buy six laptops

5) X > 80,000