

Name _____

Please read all directions carefully – your test score will be probably decrease if you fail to read and follow directions.

1. Find the equation of a line that passes through the points $(-6, -1)$ and $(-5, 2)$; state the equation in slope-intercept form (9 points)
2. Use the formula $V = lwh$ to find the volume of a box whose length, width, and height are, respectively, 7.1 ft, 4.4 ft, and 3.9 ft. ***Include units while making your calculation.*** State your conclusion using a complete sentence. (6 points)

3. Find and state an inequality whose solution set would be the graph shown in Figure 2. (6 points)

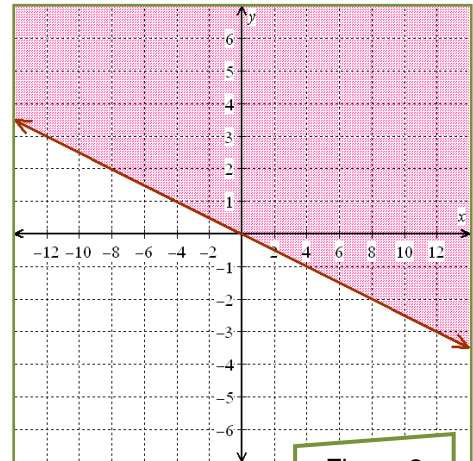


Figure 2

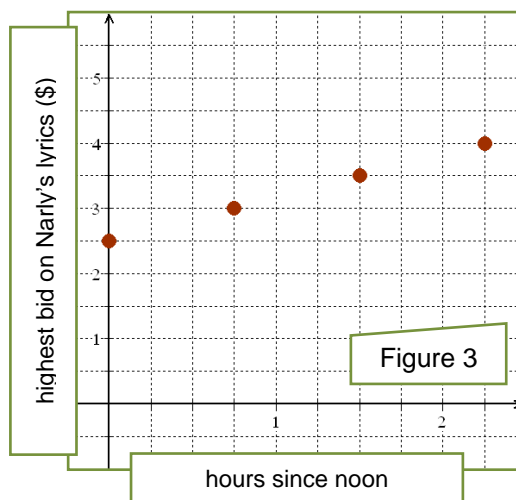
4. Solve the equation $\frac{4}{x-y} = \frac{7}{x-y+1}$ for y . (6 points)

5. There are 110 calories per 28.4 grams of Crispy Rice cereal. Use a proportion to determine the number of calories in 42.6 grams of Crispy Rice. (To get full credit, you need to define a variable and write an equation that models this situation.) (6 points)

6. Hole foods was having a sale on specialty bagels; all specialty bagels were 25% off. The sales price was \$1.35. What was the normal cost of a specialty bagel? (To get full credit, you need to define a variable and write an equation that models this situation.) (6 points)

7. Hey, Nelly, Nelly, Nelly, Yo! Dog! Nelly's friend, Narly, had some gnarly rap lyrics he decided to sell via Ebay. Narly posted the lyrics for sale at 12 noon, November 25. The points in Figure 3 show the highest bid (\$) that had been made x hours after Narly posted the lyrics.

Find the slope - *including unit* - of the line connecting the points in Figure 3 and state the practical meaning of the slope - that is, state what the slope tells you about the auction taking place for Narly's lyrics. (5 points)



8. Consider the function f shown in Figure 4. Answer each of the following questions in regards to this function.

a. State the domain and range of f using interval notation. (8 points)

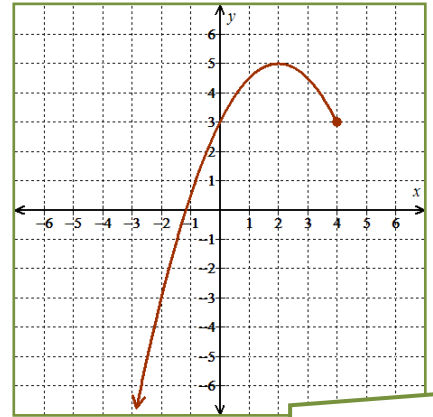


Figure 4

b. State the value of $f(2)$. (2 points)

c. For what value(s) of x does $f(x) = 3$? (3 points)

9. Solve $x - 8 \geq 5x + 16$. State the solution set using interval notation. (8 points)