MTH 60, Fall Term 2007
Final Exam – Given December 12, 2007
No Calculator Portion Name _____

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

1. Find each value and write the value into the provided blank – do all figuring on scratch paper.

a. $7-(-5)$ a. _____

b. $11+(-5)$ b. _____

c. $-6-(-19)$ c. _____

d. $-7-28$ d. _____

e. $3-9\cdot 2$ e. _____

f. $5\cdot(-2)^2$ f. _____

g. -3^2+1 g. _____

h. the value of $2\left(1+\frac{1+x}{2}\right)$ when $x=3$ h. _____

i. the value of $x+|x|$ when $x=-4$ i. _____

j. the value of $|x+x|$ when $x=-4$ j. _____

k. 30 take away 20% of 30 k. _____

2. Consider the line with equation $y = -2x + 3$.

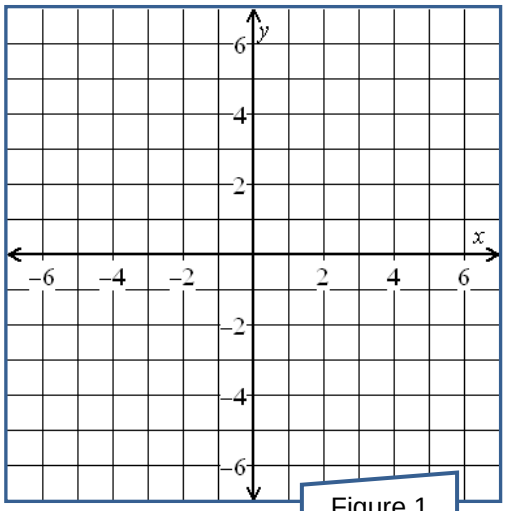

Figure 1

   a. What is the slope of this line?

   b. What is the y-intercept of this line?

   c. What is the x-intercept of this line?

   d. Graph the line onto Figure 1.

3. Consider the line with equation $3x + 5y = 11$.

   a. State a point on the line where both coordinates are integers – do your figuring on scratch paper.

   b. Write the equation of the line in slope-intercept form – show all work.

   c. Graph the line onto Figure 2.

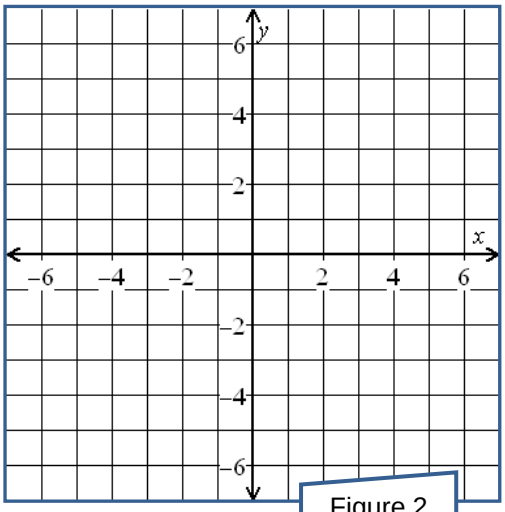

Figure 2

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1. Find the equation of the line that passes through the points $(6,7)$ and $(2,-5)$. Make sure that you show all work in a well documented manner. Make sure that you state a conclusion using a complete sentence.

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.

3. Find the solution to each equation. Show relevant work. State your conclusions using complete sentences.

   a. $5x - 15 = 8x - 12$.

   b. $6 + 2(1 + 2t) = -(2 - 4t)$

   c. $1 + 5x + 3(2 + x) = 4x - 3 + 10(1 + 2x)$

4. Solve the formula $F = \frac{9}{5}C + 32$ for the variable C. Show all relevant work.

5. Find the solution set to each inequality. State each solution set using ***interval notation***.

   a. Find the solution set to the inequality $2 < 4t + 6 \leq 14$.

   b. Find the solution set to the inequality $3x - 6 \geq 8x + 2$.

6. Consider the line shown in Figure 1.

   a. State the slope-intercept equation for the line.

   b. What is the slope of a line that is perpendicular to the line already drawn in Figure 1?

7. Graph onto Figure 2 the solution set to the inequality $x - 2y > 3$.

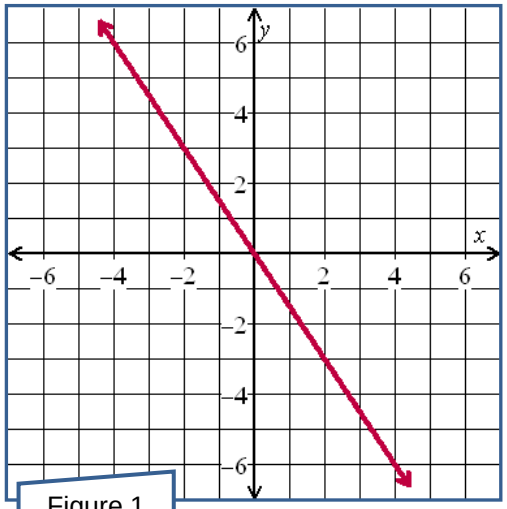

Figure 1

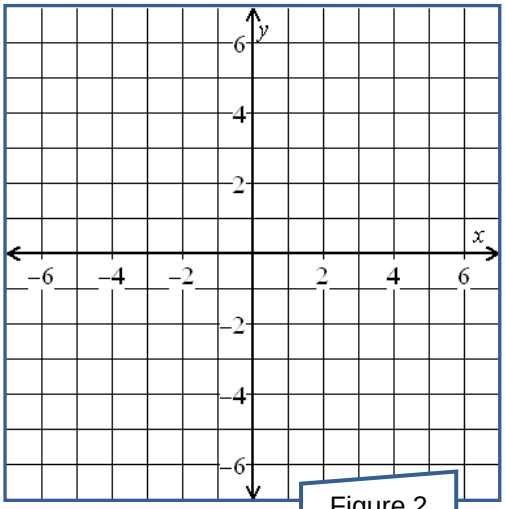

Figure 2

8. The total number of times Elmer Fudd shot at but missed Bugs Bunny in 1968 was 32% greater than the number of times he shot and missed in 1967. In 1968, Elmer shot and missed Bugs a total of 429 times. How many times did Elmer shoot at but miss that wascally wabbit in 1967? To earn full credit, you need to define a variable and write an equation that models this situation. State your conclusion using a complete sentence.

Figure Fudd

9. Ermani had a collection of dimes and quarters. All told, Ermani had 600 coins in her collection. The total face value of the coins was $118.35. How many of each type of coin did Ermani have in her collection? To earn full credit, you need to define a variable and write an equation that models this situation. State your conclusion using a complete sentence.

10. What is the equation of the vertical line that passes through the point $(3,8)$?

11. What is the equation of the line with undefined slope that passes through the point $(-2,7)$?

12. Write down an equation that illustrates the commutative property of multiplication.

13. Write down an equation that illustrates the associative property of addition.

14. Lots of people who visit New York City like to take carriage rides through Central Park. The horseman who operates one such carriage charges by the half-hour. The cost of renting this carriage is shown in Figure 3. If we connected the dots on this graph, what, ***including unit***, would the slope of the resultant line be?

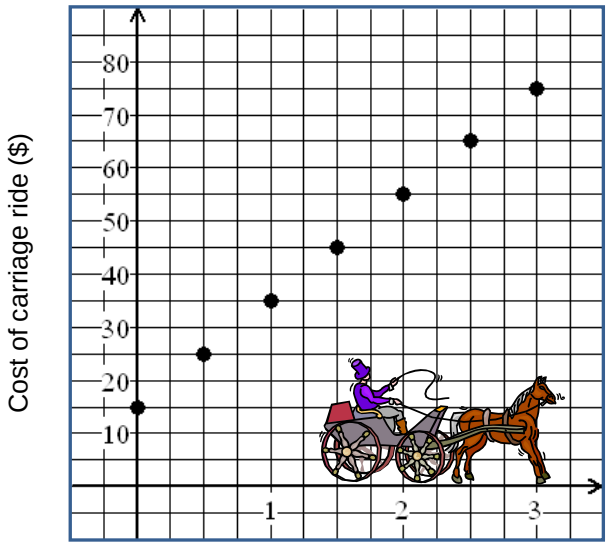

Figure 3

15. Please, oh pretty please, go back and check all of your answers … really ***check*** the ones that you can. ☺