Name: _____

CW for Tuesday, October 30, 2012

M110 – Canada

Instructions: *Work together in groups of 2 in order to complete the following problems. Try not to use your books or your notes. You may use any resource to complete the problems, but our time will be limited.*

1. Simplify or solve as appropriate:

a) $\frac{5}{6}(x - \frac{3}{4}) - \frac{1}{6} + \frac{7}{2}x$

b) $\frac{5}{6}(x - \frac{3}{4}) = \frac{1}{6} + \frac{7}{2}x$

2. The perimeter of a room is 44 meters. If the length of the room is six meters less than three times the width, what is the width of the room?

3. Solve the following formula for T. Make sure that your answer is a sum of terms. Start by clearing the formula of fractions.

$$A = \frac{1}{2}H(B + T)$$

4. Employment at Disneyland in the years since 2005 can be modeled using a linear function. Let the function, E(x) represent the number of employees in thousands "x" years since 2005.

a) Using the fact that in 2008 there were 21,200 employees and in 2010 there were 22,000 employees, find the linear function E(x).

b) Predict the number of employees this year, 2012. Show your prediction using function notation.

c) Interpret the meaning of the slope in this model?

d) Interpret the meaning of the f(0) in this model?

5. For the equation: $4x - 5y = 20$

a) Put the equation in slope-intercept form

b) Give the slope. $m =$ _____

c) Give the y-intercept as an ordered pair _____

d) Give the x-intercept as an ordered pair _____

Show your work.

e) What is the slope of a line perpendicular to $4x - 5y = 20$? _____

f) Give the equation of a line perpendicular to $4x - 5y = 20$ passing through the point (0, 4)

g) Give the equation of a line parallel to $4x - 5y = 20$ passing through the point (-2, 5)
Show all work using the point-slope form to start and ending in slope-intercept form.

6. Determine if each of the following relations are functions and justify your answer.
Give the domain and range of each relation.
If the relation is a function indicate if it is a linear function and justify your answer.

a)

x	y
3	27
4	24
4	21
5	18
6	15

b)

x	y
0	7
1	7
2	7
3	7
4	7

c) $f(x) = 3x^3 - 4$

7. Solve, graph and give interval notation for the following:

a) $\frac{1}{2} \leq 3 - \frac{5}{2}x < 13$

b) $2(x + 4) + 3x - 11 > 3x - 9$

8. Solve the system using substitution.

$$2x + 3y = 5$$
$$x + y = 9$$

9. Solve the system using elimination.

$$\frac{2}{3}x + \frac{3}{4}y = 2$$
$$\frac{1}{2}x + 9y = 1$$

10. For the following picture indicate:

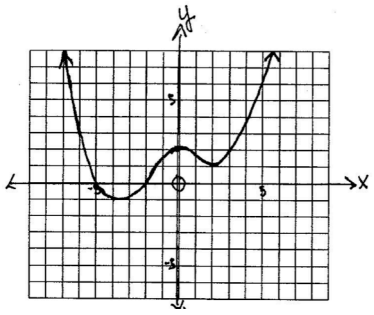
a) If the relation is a function and justify.

b) Give the domain.

c) Give the range

d) Find f(0)

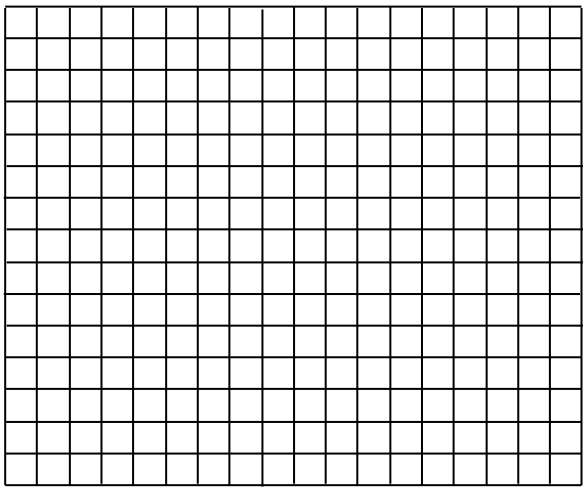
e) Find the value or values for which f(x) = 0



10. For $f(x) = 3 - 5x$ find $f(a - 4)$ & $f(x) = -7$

11. Solve the following linear inequality in 2 variables. Make sure to graph the boundary line using 3 labeled ordered pairs and show the work for a check point above and below the boundary line. Don't forget to label the solution.

$$y - 3x > -4$$



12. Find the solution to the system shown. Give the solution as an ordered pair.