Systems of Equations in the Business World

1. Your class is going to try to raise $400 by making school t-shirts. There is a $150 set up charge to screen print the t-shirt design you have chosen. It also costs $4 for each t-shirt. You feel it is possible to charge $10 per t-shirt. How many t-shirts do you have to sell before you break even (or cover your costs)? How many t-shirts do you have to sell to make $400?

   a) Write an equation for the **C**ost of the t-shirts and the **R**evenue that you will bring in.

   $C =$

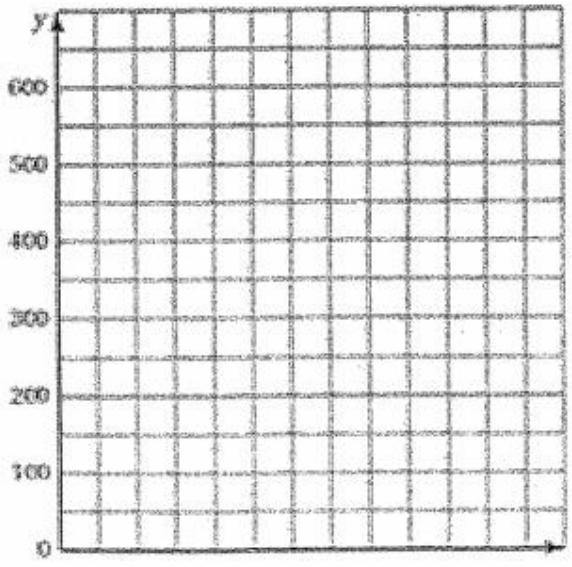
   $R =$

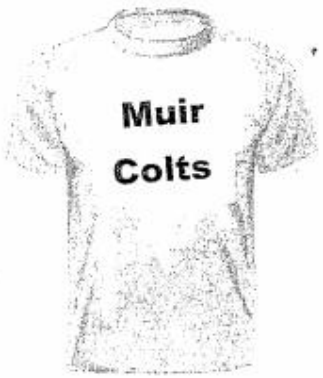
   b) Fill in the table with the values of the Cost and Revenue for the t-shirts.

# of t-shirts	0	5	10	15	20	25	30	35
Cost								
Revenue								

   c) Make a graph

   d) Interpret the graph





   e) How many t-shirts do you have to sell to make $400?

2. A firm producing flashlights finds that its fixed cost is $2400 per week and the cost to make each flashlight is $4.50 per flashlight. They sell each flashlight for $7.50 each.

a) Write an equation for the Cost of the t-shirts and the Revenue that you will bring in.

$C =$

$R =$

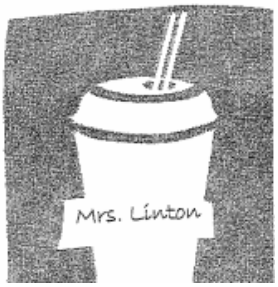
Solve the system of equations algebraically.

b) What is the break even point for the firm(the point at which the revenue equals the cost)

3. Mr. Linton wants to purchase a water bottle for each student in her math class. She comparison shops and finds two companies who will put her logo on the side.

Company A: Charges $4 per water bottle

Company B: Charges $25 for printing and $3 per bottle



a) Write an equation for the Cost of each Company.

$C_A =$

$C_B =$

Solve the system of equations. (Method of your choice!)