The is due at the start of lab on **October 10, 2012**. Don't forget to e-mail me your spreadsheet.

Definitions of terminology and spreadsheet commands

A Histogram is a way to pictorially represent data and/or probability. This can also be called a bar
chart. Conventions for histograms vary depending on the technology present and the function of
the chart.

> **Creating a Histogram.**
> 1) first enter the data(as a chart) into the graph.
> 2) now click on **Insert** and then **Chart**
> 3) follow the directions of the chart wizard. Be sure to click on the button that shows if the data
> is in rows or columns.

combination: To compute $C(9,4)$ use the command =**combin(9;4)**

To change the number of decimal places that are given, click on the cell and then click on **format** and
then **cells**. Choose the number tab and then adjust the number of decimal places.

sumproduct will multiply two list of numbers together and add the products. For example for this list

	A	B	C
1	4	5	10
2	3	9	21

=**sumproduct(A1:C1*A2:C2)** or =**sumproduct(A1:C1,A2:C2)** computes $4*3+5*9+10*21$

To reference a cell so that the computer doesn't change it when you copy and paste put dollar signs
around the letter, for example A10

Problem 1: Create a histogram for this probability distribution.

S	1	2	3	4	5
prob	.1	.14	.25	.16	.35

Problem 2: A 6 sided die is rolled 100 times. The experiment was ran twice with the following results.
Create a histogram that shows the frequency for both experiments in the same chart.

data	1	2	3	4	5	6
freq # 1	13	13	15	21	21	17
freq #2	27	13	18	12	14	16

Problem 3: Create a spreadsheet that will give the expected winnings of a player for the following game. The goal is to have a spreadsheet that you only have to do minimal changes for the different parts A container holds 10 red items and 12 non-red items. Four items are going to be drawn without replacement. The following table gives the payoff of the number of red balls drawn. Complete the following charts for the **expected net winnings of a player** at the different costs of the game.

red balls drawn	payoff
0	0
1	2
2	5
3	double the cost of the game
4	triple the cost of the game

Red	non-red	game cost	$3	$4	$5	$6	$7
10	12	exp. net winnings					

_____Find how much should be charged so that the game is fair.

_____Find how much should be charged (as close as possible) so that the player will expect to lose on average 30 cents each time the game is played.

Now complete the table using the indicated number of red and non-red items.

Red	non-red	game cost	$3	$4	$5	$6	$7
10	15	exp. net winnings					

_____Find how much should be charged (as close as possible) so that the person running the game will expect to make on average 70 cents each time the game is played.

Problem 4: Create a single histogram or other graphic that will display the cost of the game on the x-axis and the expected value of the game on the y-axis for the information in both tables(at the same time) in Problem 3. Labels are nice.