The is due at the start of lab on **October 17, 2012**. Don't forget to e-mail me your spreadsheet.

Please put the each problem on a separate page of the spreadsheet.

To look up commands click on the blue question mark or on the word help at the top of the spreadsheet. You can then search for commands that you might use. Here are some commands that may be usefull

combination   **binomdist**

Problem 1. Use the spreadsheet to compute the probability of the following. The experiment is to roll a 4 sided die 20 times. Let X = the number of 3's rolled.

$P(X = 4)$	$P(X \leq 4)$	$P(X \geq 3)$	$P(X > 6)$

Problem 2. Examine the effect of the different probabilities of a coin on its histogram when it is flipped 10 times. Hint: set up this problem so that you can easily change the probability of getting a heads.

    Question 1: First compute the probability distribution for a fair coin, where success is considered getting heads on a flip, and then generate the histogram from this distribution.

    Question 2: What is happening to the histogram as the probability of heads increases?

    Question 3: What is happening to the histogram as the probability of heads decreases?

    Question 4: Now create the histogram for when the coin is flipped 30 times. What shape is the histogram taking? If you can not tell, then increase the number of flips to a larger nubmer and look at the historgram.

Problem 3. You have a 20 question multiple choice exam. Questions 1-10 each have 4 answers and questions 11-20 each have 6 answers. If you randomly guess at each question find the probability that you get the indicated number of questions correct.

correct questions	probability
12	
10	
6	