Homework III
41000 - Business Statistics
Spring 2013

Due dates: 05/13(41000-81) - 05/14(41000-82)

Turn in your homework at the beginning of the class. Your homework solution should be well organized. Include graphs that you are asked to view in the problems. You are not limited or restricted to use the statistical packages used/presented by the instructor. You may discuss the problems with your colleagues but in the end you MUST write up your homework individually.

Problem I: Suppose you roll a *fair* die 90 times and let X be the number of times the result is greater than or equal to 5.

Compute Pr(X is in [20,25]) by

a) Exact Binomial derivation (Excel function BINOMDIST);

b) Approximate normal derivation (Excel function NORMDIST).

c) Repeat a) and b) for Pr(X is in [35,40]).

Note: Be careful with a) since X is a discrete random variable. Remember that for discrete random variables, the probability of a single value is not necessarily zero, as would be the case with continuous random variables.

Problem II: Ask 20 friends, colleagues and family members to answer YES or NO to each one of the following 5 questions.

Question	Sample proportion of YESES
1. Are you in favor of the death penalty?	
2. Are you in favor of gun ban?	
3. Do you know the capital of Argentina?	
4. Do you support gay marriage?	
5. Do you think statistics is useful?	

For each one of the 5 questions, compute the 95% confidence interval for the true proportion of YESES (p).