

This assignment is due by 3:30 pm on Monday, October 16, 2006, in Dr. Kozdron's office (College West 307.31). You may also hand it in before class that day. You must submit all problems that are marked with an asterix (*). You are encouraged to form study groups and collaborate with others on this assignment. However, the final work you submit must be your own. A piece of advice: *the assignments are worth very little in the computation of your final grade. It is better to suffer through not understanding something now, rather than copying from a friend just for the sake of completion. You will not have that luxury on the exams.* YOUR ASSIGNMENT MUST BE STAPLED AND PROBLEM NUMBERS CLEARLY LABELLED. UNSTAPLED ASSIGNMENTS WILL NOT BE ACCEPTED! DO NOT CROWD YOUR WORK. DO NOT WRITE IN MULTIPLE COLUMNS..

0. The following problems are not to be handed in. However, you should read and answer them to help solidify your understanding of some of the third chapter's key ideas.

- Review Exercises page 223: #1, #2, #9, #12
- Review Exercises page 259: #15, #16, #17
- Review Exercises page 314: #1, #2

1. * Do the following problems from the text:

- Review Exercises page 223: #10
- Review Exercises page 259: #14, #18

2. * The Regina school district has decided to begin two new programs: one program involves reading improvement, and the other program involves enriched mathematics. After a one-year period, each of the programs will be classified as either successful or unsuccessful. Consider the decision to begin the two new programs as an experiment.

- (a) How many sample points (i.e., outcomes) exist for this experiment?
- (b) Let R denote the event that the reading program is successful, and let M denote the event that the mathematics program is successful. List the sample points (i.e., outcomes) in each of R and M , respectively.
- (c) List the sample points in the event " R or M " (i.e., in the union of R and M).
- (d) List the sample points in the event " R and M " (i.e., in the intersection of R and M).

3. * Forty-five percent of the residents in the Village of McLean who are of voting age are not registered to vote.

- (a) In a random sample of 10 people from McLean who are of voting age, what is the probability that 5 are not registered to vote?

(continued)

(b) In a random sample of 10 people from McLean who are of voting age, what is the probability that 2 or fewer are not registered to vote?

4. * Automobile painting times at the McLean Auto Body Painting Shop are believed to be normally distributed. It is estimated that 68.26% of automobiles are painted in from 2.5 to 3.5 hours. In addition, it is estimated that 95.44% of automobiles are painted in from 2 to 4 hours.

(a) What is the mean painting time for the automobiles?

(b) What is the standard deviation of painting times for the automobiles?

(c) What is the probability that an automobile will be painted in three hours or less?

(d) What is the probability that an automobile will require between two and three hours for painting?

(e) What is the probability that an automobile will be painted in two hours or less?

(f) What is the probability that an automobile will require two hours or more to be painted?