

HOMEWORK SET 5

MAT 217 · FALL 2008

You must show all work to get full credit. You can use a calculator to check your work.

Problem 1. At a car park there are 100 vehicles, 60 of which are cars, 30 are vans and the remainder are lorries. If every vehicle is equally likely to leave, find the probability of:

- (a) van leaving first.
- (b) lorry leaving first.
- (c) car leaving second if either a lorry or van had left first.

Problem 2. A student club has 30 members.

- (a) How many ways can a president, vice president, treasurer, and secretary be chosen?
- (b) How many ways can a committee of four members be chosen?

Problem 3. An estimated 8% of men and 0.5% of women are colorblind. If a colorblind person is selected at random, what is the probability that the person is a man?(Assume that men and women occur in equal numbers.)

Problem 4. Five coins are tossed, and X is the number of heads. What is probability of getting at least three heads? What is the expected number of heads?