Department of Mathematics and Statistics Semester 121

STAT211	Quiz 5	Monday November 19, 2012
Name:		ID #:

1. Cars arrive at the Bahrain Causeway booth at a rate of 6 per minute on weekends. Assume that the number of cars arriving at the booth is a Poisson random variable. Find the probability that in a one minute period more than 2 cars arrive.

2. During the course of one hour 1000 bottles of soft drink are filled by a machine. Each hour a sample of 20 bottles is taken and the number of underfilled bottles is counted. Suppose that during a particular hour 100 underfilled bottles are produced. What is the probability that at least 2 underfilled bottles will be among those sampled?

- 3. Over a long period of time in a large multinational corporation, 10% of all sales trainees are rated as outstanding, 75% are rated as excellent/good, and 15% are rated satisfactory/unsatisfactory. Find the probability that in a sample of 10 trainees
 - a. Two are rated outstanding.
 - b. At most two are rated satisfactory/unsatisfactory.