**Complete the following problems and submit the results in a Microsoft Word document**

These problems are similar to problems in the text, but have been altered by the course monitor.

1-1 Jay White sells handmade decorations. He had to purchase specialized equipment for $4000 and buy a retail license for $1000. It cost Jay $125 in time and materials to make each item. He expects to sell each decoration for $150.

1. How many units will he need to sell to breakeven?
2. Jay has been told that the market for his products may not be as large as he originally anticipated. What price would he have to charge to make the Breakeven Point 100 units?
3. This new price represents what percentage change in the price?

1-2 The oasis outpost of Abu Ilan, in the heart of the Neveg dessert, has population of 24 Bedouin tribesmen and 16 Farima tribesman. El Kamin, a nearby oasis, has a population of 8 Bedouin s and 36 Farima. A lost Israeli soldier, accidently separated from his Army unit, is wandering through the desert and arrives at the edge of one of the oases. The soldier has no idea which oasis he has found, but the first person he spots at distance is a Bedouin.

1. What is the probability that he wandered into Abu Ilan?
2. What is the probability he is in El Kamin?

1-3 In a sample of 1,000 representing a survey from the entire population, 600 people were from Laketown and the rest were from River City. Of the sample, 19 had some form of cancer. Twelve of those were from Laketown.

1. Are the events of living in Laketown and having cancer of some sort of cancer independent?
2. Which city would you prefer to live in, assuming that your main objective was to avoid having cancer?

1-4 Gary Schwartz is the top salesman for his company. Records indicate that he makes a sale on 70% of his sales calls.

1. If he calls on 6 potential clients, what is the probability he makes exactly 4 sales?
2. What is the probability he make fewer than 3 sales?

1-5 The time to complete a construction project is normally distributed with a mean of 45 weeks and standard deviation of 4.5 weeks.

1. What is probability the project will be finished in 53 weeks or less?
2. What is the probability the project will be finished in 40 weeks or less?
3. What is probability the project will take more than 57 weeks?