**HW #8**

read in textbook: pages 267-272, 276-279

1. If scores on a test are normally distributed with mean 80 and standard deviation 6, what is the probability that the average of 10 randomly selected scores will be larger than 82?

2. If 30% of the population wears glasses, what is the probability that more than 40% of a sample of a random sample of 50 people will be found to wear glasses?

3. If 5% of the items coming off a production line are defective, what is the probability that the percent defective in the next 100 items is more than 7%?

4. The average zinc concentration in a sample of 36 measurements is 2.6 grams per milliliter. Find the 95% confidence interval for the true mean concentration. Assume the population standard deviation is 0.3 .

5. A random sample of 110 lightning flashes in a certain region resulted in a sample average radar echo duration of .81 seconds and a sample standard deviation of .34 seconds. Calculate a 99% confidence interval for the true average echo duration µ.