Solutions are included at the end of the worksheet. This worksheet is optional and will not be turned in, but may be helpful in reviewing material and studying for exams.

1) Professor Whata Guy surveyed a random sample of 420 statistics students. One of the questions was "Will you take another mathematics class?" The results showed that 252 of the students said yes. What is the sample proportion, $\hat{p}$ of students who say they will take another math class?

2) The National Association of Realtors estimates that 23% of all homes purchased in 2004 were considered investment properties. If a sample of 800 homes sold in 2004 is obtained what is the probability that between 175 and 200 homes are going to be used as investment property?

3) Smith is a weld inspector at a shipyard. He knows from keeping track of good and substandard welds that for the afternoon shift 5% of all welds done will be substandard. If Smith checks 300 of the 7500 welds completed that shift, what is the probability that he will find more than 25 substandard welds?

4) Assume that blood pressure readings are normally distributed with a mean of 122 and a standard deviation of 9.6. If 144 people are randomly selected, find the probability that their mean blood pressure will be less than 124.

5) According to a study conducted in one city, 36% of adults in the city have credit card debts of more than $2000. A simple random sample of n = 100 adults is obtained from the city. Describe the sampling distribution of $\hat{p}$, the sample proportion of adults who have credit card debts of more than $2000.

6) The owner of a computer repair shop has determined that their daily revenue has mean $7200 and standard deviation $1200. The daily revenue totals for the next 30 days will be monitored. What is the probability that the mean daily revenue for the next 30 days will be between $7000 and $7500?

1) 0.6
2) 0̶.̶~~~~ **0.6863**
3) 0.0040
4) 0.9938
5) Approximately normal; $\mu_p = 0.36$, $\sigma_p = 0.048$
6) 0.7333