Unit #1: Data Analysis

1. A recent study of Ipod owners found the average life span of their Ipods to be 3.7 years with a standard deviation of 0.6 years. If a random sample of 32 people who own Ipods is selected, find the probability that the mean lifetime of the sample will be less than 3.4 years.

2. The average electric bill for a group of residents in a subdivision is $72 for the month of April. The standard deviation for this group is $6. The amounts of the electric bill are normally distributed. Find the probability that the mean of the bill for 15 residents in this subdivision will be less than $75.

3. The average repair cost microwave ovens ifs normally distributed. A sample of microwaves resulted in an average repair cost of $55 with a standard deviation of $8. If 12 microwaves are repaired, find the probability that the mean repair costs will be greater than $60.

4. The best point estimate for the population mean is _____.

5. The Central Limit Theorem states that if the _____ size is _____enough (_____), the sampling distribution will be approximately _____ even if the _____ distribution is not_____.

6. The three confidence levels used most often are _____, _____, and _____.

7. When calculating confidence intervals for means, use a _____ distribution.

8. When calculating confidence intervals for proportions, use a _____ distribution.

9. A random sample of 49 shoppers showed that they spend on average $23.45 per visit at the Saturday Mornings Bookstore. The standard deviation of the sample was $2.80. Find a point estimate for the population mean and a 90% confidence interval for the true mean.

10. An irate patient complained that her doctor's bill of $45.75 was too high. She randomly surveyed 30 of his other patients and found that the mean amount of money they spent on each doctor's visit was $44.80. The standard deviation of the sample was $3.53. Find a point estimate of the population mean and a 95% confidence interval. Was the patient justified in his complaint?

11. In a recent study of 100 people, 85 said they were dissatisfied with their elected officials. Find a 90% confidence interval of the people who said they are dissatisfied with their elected officials.

12. A survey of 90 families showed that 40% owned at least one television set. Find the 95% confidence interval of the true proportion of families who own at least one television set.

    You should also study example handouts, practice worksheets, daily grades, and quizzes.