1. Describe the characteristics of a frequency distribution or histogram for a normal data set.

2. The Stanford-Binet IQ Test has a mean of 100 and a standard deviation of 15. Scores on the IQ test follow an approximately normal distribution.

1. Draw the normal distribution curve for the Stanford-Binet Test. Label means and standard deviations.
2. Approximately 68% of the scores fall between \_\_\_\_\_ and \_\_\_\_\_.
3. Approximately 95% of the scores fall between \_\_\_\_\_ and \_\_\_\_\_.
4. Approximately 99.7% of the scores fall between \_\_\_\_\_ and \_\_\_\_\_.
5. Approximately what percentage of the score are above 145? \_\_\_\_\_
6. A student takes the Stanford-Binet test and scores 92. What is the z-score for this student?
7. A student takes the Stanford-Binet test and scores 123. What proportion of students will be expected to have scores less than this student.
8. What proportion of students will be expected to score between 95 and 105?

3. The Forest Service is considering additional restrictions on the number of vehicles allowed to enter Yellowstone National Park. To assess public reaction, the service asks a random sample of 200 visitors if they favor the proposal. Of these, 97 say “Yes”. Give a 99% confidence interval for the proportions of all visitors to Yellowstone who favor the restrictions.

4. As part of a quality improvement program, your mail-order company is studying the process of filling customer orders. According to company standards, an order is shipped on time if it is sent within 3 working days of the time it is received. You select a simple random sample (SRS) of 100 of the 5000 orders received in the past month for an audit. The audit reveals that 86 of these orders were shipped on time. Find a 95% confidence interval for the true proportion of the month’s orders that were shipped on time.