1) Adult IQ scores have a bell-shaped distribution with a mean of 100 and a standard deviation of 15. Use the Empirical Rule to find the percentage of adults with scores between 70 and 130.

2) Lengths of pregnancies of humans are normally distributed with a mean of 265 days and a standard deviation of 10 days. Use the Empirical Rule to determine the percentage of women whose pregnancies are between 255 and 275 days.

3) A competency test has scores with a mean of 82 and a standard deviation of 2. A histogram of the data shows that the distribution is normal. Between what two values do about 99.7% of the values lie?

4) A placement exam for entrance into a math class yields a mean of 80 and a standard deviation of 10. The distribution of the scores is roughly bell-shaped. Use the Empirical Rule to find the percentage of scores that lie between 60 and 80.

5) SAT verbal scores are normally distributed with a mean of 433 and a standard deviation of 90. Use the Empirical Rule to determine what percent of the scores lie between 433 and 523.

6) The average IQ of students in a particular calculus class is 110, with a standard deviation of 5. The distribution is roughly bell-shaped. Use the Empirical Rule to find the percentage of students with an IQ above 120.

7) At a tennis tournament a statistician keeps track of every serve. The statistician reported that the mean serve speed of a particular player was 97 miles per hour (mph) and the standard deviation of the serve speeds was 10 mph. If nothing is known about the shape of the distribution, give an interval that will contain the speeds of at least three-fourths of the player's serves.

8) Heights of adult women have a mean of 63.6 in. and a standard deviation of 2.5 in. What does Chebyshev's Theorem say about the percentage of women with heights between 56.1 in. and 71.1 in.?

9) A study was designed to investigate the effects of two variables - (1) a student's level of mathematical anxiety and (2) teaching method - on a student's achievement in a mathematics course. Students who had a low level of mathematical anxiety were taught using the traditional expository method. These students obtained a mean score of 250 with a standard deviation of 50 on a standardized test. Assuming no information concerning the shape of the distribution is known, what percentage of the students scored between 150 and 350?