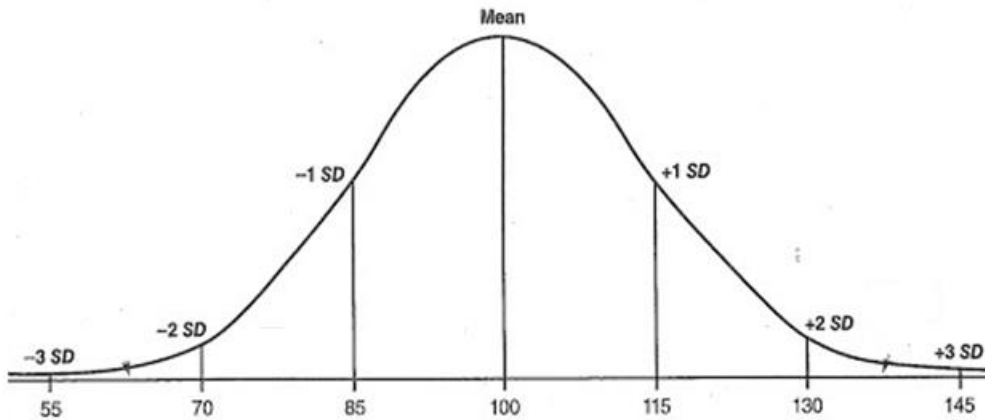


Normal Distribution Empirical Rule Group Assignment

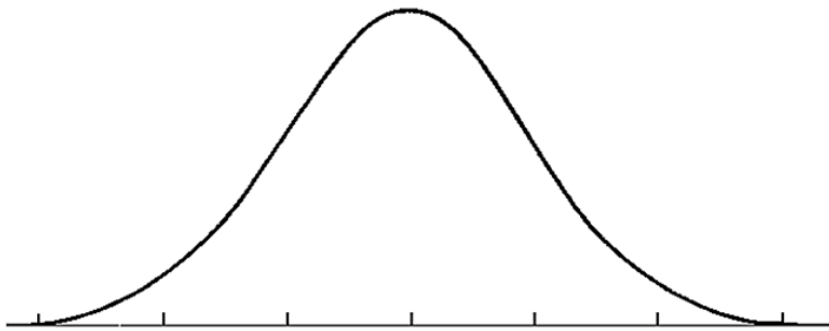
Show work legibly on separate piece of paper. You do not have to rewrite the question.

1. Use the picture below to answer questions a – f.



- a) What is the mean?
- b) What percent of the scores fall between 85 and 115?
- c) What percent of the scores fall between 100 and 115?
- d) What percent of the scores fall between 100 and 130?
- e) What percent of the scores fall between 115 and 145?
- f) What percent of the scores fall between 70 and 85?

2. A placement test has a normal distribution with a mean of 120 and standard deviation of 12. Draw a normal curve and place the scores on the horizontal axis that represent the mean, 1 standard deviation, 2 standard deviations, and 3 standard deviations.



3. A new car is advertised to get 25 mpg. After researching more about the car, you learn that the average miles per gallon is 25 with a standard deviation of 3. With this information, calculate
- What range of gas mileage do at least 68% of the cars get?
 - What range of gas mileage do at least 95% of the cars get?
 - What is the probability that you will get a car where the gas mileage is lower than 25 mpg?
 - What is the probability that you will get a car where the gas mileage is better than 28 mpg?
4. The amount of cereal in a box is normally distributed with a mean of 20 ounces. If the packager is required to have at least 97.5% of the cereal with 17 or more ounces of cereal, what is the standard deviation for the amount of cereal in a box?