1. Assume blood-glucose levels in a population of adult women are approximately normally distributed with mean 90 mg/dL and standard deviation 13 mg/dL.

   - Suppose the "abnormal range" were defined to be glucose levels outside of 1 standard deviation of the mean (i.e., either at least 1 standard deviation above the mean, or at least 1 standard deviation below mean). What percentage of individuals would be called "abnormal" and need to be retested?

   - ○ 16%
   - ○ 5%
   - ◉ 32%
   - ○ 1%

2. Assume blood-glucose levels in a population of adult women are approximately normally distributed with mean 90 mg/dL and standard deviation 13 mg/dL.

   -Suppose the "abnormal range" were defined to be glucose levels outside of 1 standard deviation of the mean (i.e., either at least 1 standard deviation above the mean, or at least 1 standard deviation below mean). What is the normal range of glucose levels in units of mg/dL?

   - ○ 64 mg/dL to 116 mg/dL.
   - ○ 70.5 mg/dL to 109.5 mg/dL
   - ◉ 77 mg/dL to 103 mg/dL.

3. Assume blood-glucose levels in a population of adult women are approximately normally distributed with mean 90 mg/dL and standard deviation 13 mg/dL.

-Suppose the "abnormal range" were defined to be glucose levels outside of 2 standard deviations of the mean. What percentage of individuals would be called "abnormal" and need to be retested?

- ○ 2.5%
- ○ 32%
- ○ 16%
- ◉ 5%

4. Assume blood-glucose levels in a population of adult women are approximately normally distributed with mean 90 mg/dL and standard deviation 13 mg/dL.

-Suppose the "abnormal range" were defined to be glucose levels outside of 2 standard deviations of the mean. What is the normal range of glucose levels in units of mg/dL?

- ◉ 64 mg/dL to 116 mg/dL.
- ○ 70.5 mg/dL to 109.5 mg/dL.
- ○ 77 mg/dL to 103 mg/dL.
- ○ 54 mg/dL to 126 mg/dL.

5. The U.S. Center for Disease Control (CDC) collects anthropometric (weight, height etc..) data on large samples of US youth, both male and female, and uses these data to create growth charts, which essentially characterize the distributions of these measures by age and sex. For example, for 18 years old males, the mean body mass index (BMI) is 21.9 (kg/m^2) with a standard deviation (SD) of 3.2 (kg/m^2). Physicians (and patients) can use these data to figure out how individual BMI values compare relative to the age and sex specific distribution. Suppose you are a physician and you are screening patients at a health fair. The following describes some of the men you have screened. *You may assume the distribution of BMI values for 18 year-old males is a normal distribution.*

   - Male 3 had a BMI of that was .75 SDs below the average. What was his BMI measure?

   - ○ 17.1
   - ○ 20.3
   - ○ 18.7
   - ◉ 19.5

6. The U.S. Center for Disease Control (CDC) collects anthropometric (weight, height etc..) data on large samples of US youth, both male and female, and uses these data to create growth charts, which essentially characterize the distributions of these measures by age and sex. For example, for 18 years old males, the mean body mass index (BMI) is 21.9 (kg/m^2) with a standard deviation (SD) of 3.2 (kg/m^2). Physicians (and patients) can use these data to figure out how individual BMI values compare relative to the age and sex specific distribution. Suppose you are a physician and you are screening patients at a health fair. *You may assume the distribution of BMI values for 18 year-old males is a normal distribution.*

   - Estimate a range of "normal" BMI values, ie: a range that contains the middle 95% of the values in the population of 18 year old males.

   - (15.5, 28.3)
   - (17.1, 26.7)
   - (13.9, 29.9)
   - (19.5, 22.7)

7. Suppose you are analyzing data collected on health care costs in the year 2018 for a sample of 150 males who had coronary artery bypass surgery in the same year. The histogram of these 150 cost values is right skewed. Likely, what is the shape of the cost distribution in the population of all male having the surgery in 2018?

- ○ left-skewed
- ◉ right-skewed
- ○ approximately normal
- ○ uniform

8. Suppose you are analyzing data collected on health care costs in the year 2018 for a sample of 150 males who had coronary artery bypass surgery in the same year. The histogram of these 150 cost values is right skewed. What sample summary statistics are necessary for estimating an interval containing the "middle 95%" of the cost values for these mean?

- ○ the sample mean and sample standard deviation
- ○ the sample median and inter-quartile range
- ◉ the 2.5th and 97.5% percentiles of the sample
- ○ the 25th and 75th percentiles of the data