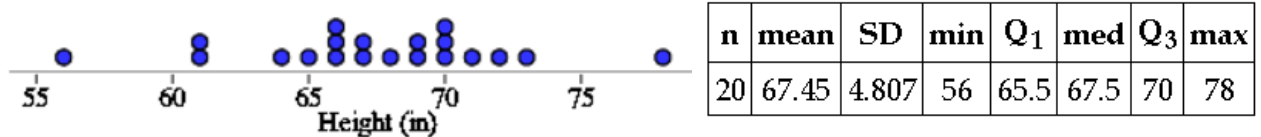# Lesson 2.1: Where do I stand?

How does my height compare with other AP Stats students?

The dotplot below represents a random sample of the heights of 20 AP Stats students to the nearest inch.

| n | mean | SD | min | $Q_1$ | med | $Q_3$ | max |
|---|------|------|-----|-------|------|-------|-----|
| 20 | 67.45 | 4.807 | 56 | 65.5 | 67.5 | 70 | 78 |

Height (in)

1. Describe the distribution.

2. a. Arianna is 65 inches tall. What percentage of the heights are less than 65?

   b. What is your height? _____ What percentage of the heights are less than your height?

3. The data is also represented in the histogram below. Use the histogram to complete the table.
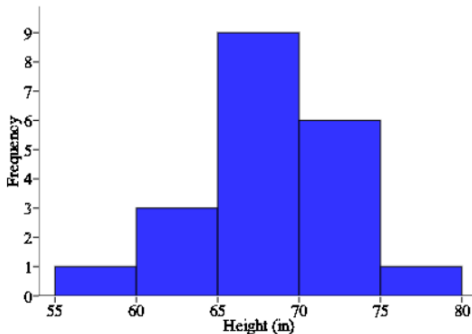
| Height | Frequency | Relative Frequency | Cumulative Relative Freq. |
|--------|-----------|--------------------|---------------------------|
| 55-59  |           |                    |                           |
| 60-64  |           |                    |                           |
| 65-69  |           |                    |                           |
| 70-74  |           |                    |                           |
| 75-79  |           |                    |                           |

Height (in)

4. Use the information in the table to create a **cumulative relative frequency graph below.**

   a. Mrs. Gallas is 66 inches tall. Estimate and interpret the percentile she is at using the graph.

   b. Estimate and interpret the $80^{th}$ percentile.

TheStatsMedic

Name: _____ Hour: _____

# Lesson 2.1 – Describing Location in a Distribution

Big Ideas:

## Check Your Understanding:

1. Mrs. Munson is concerned about how her daughter's height and weight compare with those of other girls of the same age. She uses an online calculator to determine that her daughter is at the 87th percentile for weight and the 67th percentile for height. Explain to Mrs. Munson what these values mean.

2. The graph displays the cumulative relative frequency of the lengths of phone calls made from the mathematics department office at Gabalot High last month.
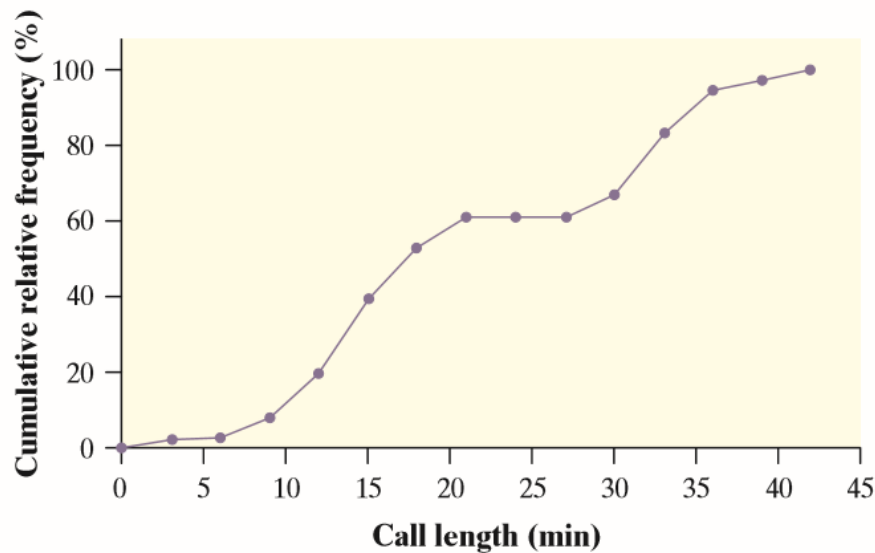


a. About what percent of calls lasted less than 30 minutes? 30 minutes or more?

b. Estimate Q1, Q3, and the IQR of the distribution of phone call length.

**Homework page 104: 1, 3, 7, 9, 11**