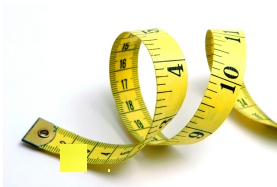


Describing Quantitative Data

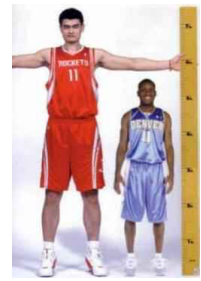
Where do I stand?

Learning Targets

- Identify outliers using the $1.5 \times \text{IQR}$ rule.
- Make and interpret boxplots of quantitative data.
- Use boxplots and numerical summaries to compare distributions of quantitative data.



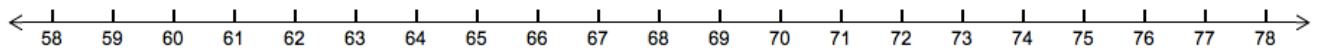
Where Do I Stand?



How does my height compare with the other AP Stats students in my class? In order to answer this question, Ashmita, a student in 4th hour AP Stats, recorded the heights of everyone in her class. The heights (in inches) were:

68 72 61 62 63 63 64 64 59 62 61 60 65 62 57 77 62 71 65 62 70

1. Create a dotplot to display the class distribution of heights.

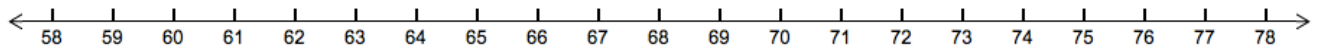


2. What is the median height? Describe how you found it.

3. What is Q_1 and Q_3 ? Describe how you found them.

4. Record the following values and then use them to make a boxplot.

Minimum: Q_1 : Median: Q_3 : Maximum:



4. The **interquartile range** (or *IQR*) is defined as $Q_3 - Q_1$. Find the *IQR*. Where do you see the *IQR* in the boxplot?

5. An **outlier** is a data value that is way too small or way too big (using the rules below). Are there any outliers? Show your work.

$$\text{Way too small} < Q_1 - 1.5IQR$$

$$\text{Way too big} > Q_3 + 1.5IQR$$

6. Ashmita is 63 inches tall. How does her height compare with the other AP Stats students in her class?

Describing Quantitative Data

Important Ideas:

Check Your Understanding:

Mr. Wilcox is a huge fan of University of Michigan football. His favorite season was the 1997 season (a perfect season!). Here is a back-to-back stemplot of the points scored by the 1997 University of Michigan football team and the archrival Michigan State University football team. Write a few sentences comparing the distributions.

