

**Names:** \_\_\_\_\_

MATH 232 · Introduction to Statistics

Spring 2017

Instructor: E.M. Kiley

**Week 3: Cartoon Guide Questions**

Please submit a piece of paper with your height in inches (not in feet; please convert to inches only. If you know your height in centimeters, divide by 2.54 to get the number of inches), and while the results are being written on the board, re-read pages 9–11, and begin reading pages 14–18. Do the following exercises together with your group mates. Please submit only one answer sheet per group, and clearly indicate the names of all group members at the top.

**Question 1.** Create a dot plot of the data set that contains the heights of the students in our class.

**Question 2.** Are there clusters in the data? Outliers? What does your dot plot reveal?

**Question 3.** Create a frequency table of the data set; come up with the boundaries of the frequency classes on your own, but make sure you have more than five classes. Draw the corresponding histogram.

**Question 4.** What is the difference between the *central* or *typical* value of a data set, and the *spread* of the data about that value? Use your own words.

**Question 5.** Use the formula on page 15 to compute the mean height of a student in our class. You may abbreviate your notation using the sigma-notation for sums that's discussed on page 16, but if you do so, please make sure to indicate the value of  $n$ , and to state what the  $x_i$  are.

**Question 6.** Find the median height of a student in our class using the stem-and-leaf method discussed on page 18.

**Question 7.** To show that the mean is more sensitive to outliers than the median, assume that we had an additional student in our class who was 84 inches tall, and recompute the mean and median from the problems above. Which one changed more? Compare this to the example in the box on page 18.

**Question 8.** The *mode* of a data set is the value that occurs most often. What is the mode of the data set containing your heights?