Sept 26th - DAY 4 WARM UP

MEASURES OF
CENTRAL TENDENCY

Name_____

Date_____Period_____

➤ Have each section of your paper answered and signed by different people.
➤ Each person can only sign your sheet 3 times.
➤ Calculate the mean, median, mode, and range for each column on your chart.

How many hours per day you talk on the phone?	How many siblings do you have?	How many hours per day do you watch TV?	How many hours per day do you play video games?	How many texts do you send in a day?
Mean:	Mean:	Mean:	Mean:	Mean:
Median:	Median:	Median:	Median:	Median:
Mode:	Mode:	Mode:	Mode:	Mode:
Range:	Range:	Range:	Range:	Range:

Measures of Center: Mean

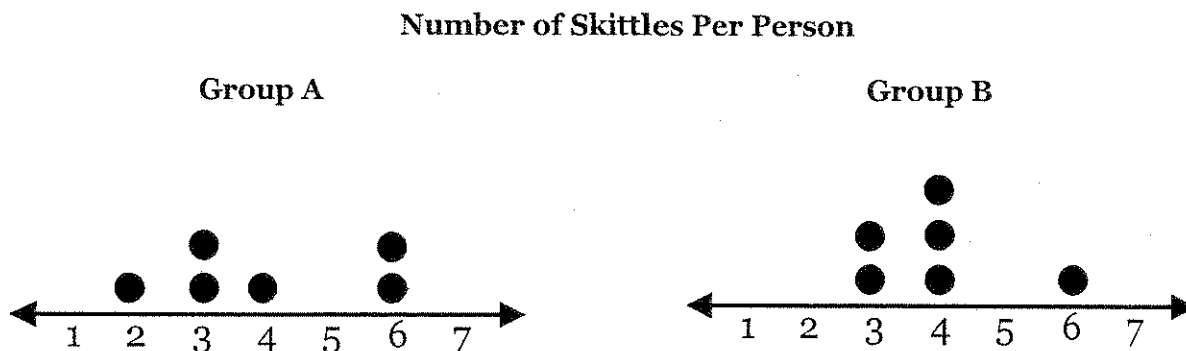## Investigation 1: Finding the Mean

Discuss the following with your partner or group. Write your answers on your own paper. Be prepared to share your answers with the class.

1) Give each person 12, 7, 4, and 1 skittles respectively.

2) How many skittles does your group have altogether?

3) Divide out your groups' skittles so that each person has the SAME number of skittles.

4) How many skittles does each person receive?

5) Find the mean of the numbers 12, 7, 4, and 1.

6) How does your answer relate back to question #4?

Thinking About the Situation

Discuss the following with your partner or group. Write your answers on your own paper. Be prepared to share your answers with the class.

The dotplots below show two different distributions for numbers of skittles per person.

Number of Skittles Per Person

Group A   Group B

1) What is the total number of skittles in each group?
2) How many skittles are in there in each group?
3) Find the mean of group A.
4) Find the mean of group B.
5) How are the groups alike? How are they different?

Investigation 2: Finding the Median

Here is a way to help you think about how to find the median. Get a strip of squares from your teacher. Note that there are 23 squares on the strip – one for each person in Ms. Jackson's class. Write the name lengths of Ms. Jackson's students in order from least to greatest on the strip as shown below.

| 9 | 9 | 9 | 11 | 11 | 12 | 12 | 12 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | 14 | 15 | 15 | 15 | 15 | 15 | 15 | 17 |

Discuss the following with your partner or group. Write your answers on your own paper. Be prepared to share your answers with the class.

1) Fold the strip in half.
   a) What number does the crease fall on?
   b) How many name lengths are below this number?
   c) How many name lengths are above this number?
   d) The median is the midpoint of the data set. The same number of data values fall above and below this value. What is the median of this data set?

2) Suppose Cassandra Smithson moves to another school. The class now has 22 students. On your strip of squares, cut off the square that corresponds to Cassandra's name length. Fold the strip in half.
   a) What number does the crease fall on?
   b) How many name lengths are below this number?
   c) How many name lengths are above this number?
   d) What is the median of this data set?

3) There are 15 students in a class. Use the information about the class's name lengths below to answer the questions.
   Most common name length: 12 letters
   Median: 12 letters
   Range: The data vary from 8 letters to 16 letters.
   a) Find a possible set of name lengths for this class. Describe the process you used.
   b) Make a dot plot to display the data.
   c) Compare your graph with the graphs of your classmates. How are they alike? How are they different?

Investigation 4: Mean vs. Median

Discuss the following with your partner or group. Write your answers on your own paper. Be prepared to share your answers with the class.

The heights of Washington High School's basketball players are: 5 ft 9in, 5 ft 4in, 5 ft 7 in, 5ft 6 in, 5 ft 5 in, 5 ft 3 in, and 5 ft 7 in. A student transfers to Washington High and joins the basketball team. Her height is 6 ft 10in.

1) What is the mean height of the team before the new player transfers in? What is the median height?

2) What is the mean height after the new player transfers? What is the median height?

3) What effect does her height have on the team's height distribution and stats (center and spread)?

4) How many players are taller than the new mean team height? How many players are taller than the new median team height?

5) Which measure of center more accurately describes the team's typical height? Explain.