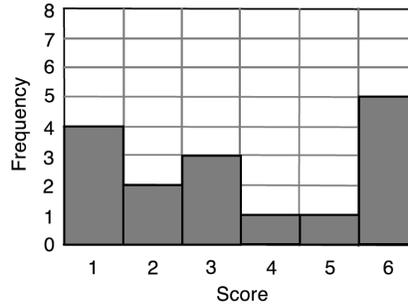Name _____ Date _____ Class _____

Comparing Measures of Center

Do Now

The bar chart represents the number of goals each player scored in a soccer tournament.

1. How many players scored goals?

2. Find the mean, median, mode of scores.

Problem 1: Comparing the Mean and Median

Bobbie is a sixth grader who competes in the 100-meter hurdles. In eight track meets during the season, she recorded the following times.

18.11   31.23   17.99   18.25   17.50   35.55   17.44   17.85

A. Calculate the **mean** of Bobbie's times.

B. Calculate the **median** of Bobbie's times.

C. How many of Bobbie's times are close to the **mean**? How many are close to the **median**? List each time.

Mean = _____	Median = _____
Times close to the mean:	Times close to the median:

D. If Bobbie ran another race, do you think her time would be closer to the **mean** or the **median**? Explain your reasoning.

E. Which measure of center best represents Bobbie's overall 100-meter hurdle time?

Problem 2: Restaurant Pay

At Restaurant A, there are seven waiters, one manager, and one owner that works at the restaurant. Each waiter earns $15 an hour, the manager earns $40 an hour, and the owner earns $105 an hour.

    A. What is the **mean** hourly pay of the restaurant workers?

    B. What is the **median** hourly pay of the restaurant workers?

    C. Which measure – the **mean** or **median** – is greater? Why do you think that measure is greater?

    D. Which measure of center better represents the pay of workers at the restaurant? Explain your reasoning.

Focus Question: In what situations would the **mean** or average be misleading as the typical value of the data set?

_____

_____

Problem 3: Average Number of Siblings

The number of siblings for a group of sixth-grade students is shown below.

<div align="center">1 0 2 1 6 0 2 0 1 10</div>

    A. Make a dot plot of the data.

    B. Find the **mean**, **median**, and **mode** of the data.

    C. Which measure of center do you think best represents the data? Why?

    D. Eight more students are asked how many siblings they have, and their data is added to the data set. Six of the eight students said they had 1 sibling, and two of the eight said they had 2 siblings. What is the new mean, median, and mode?