Name:_____ Date:_____

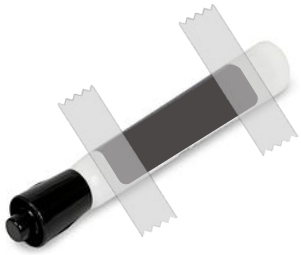
Pennies on a Ruler

The ***balancing point*** of a data set is the point on a number line where the data distribution is balanced.

Use the instructions below to find the balancing point of the following set of numbers: 2, 3, 6, 8, 9, 11.

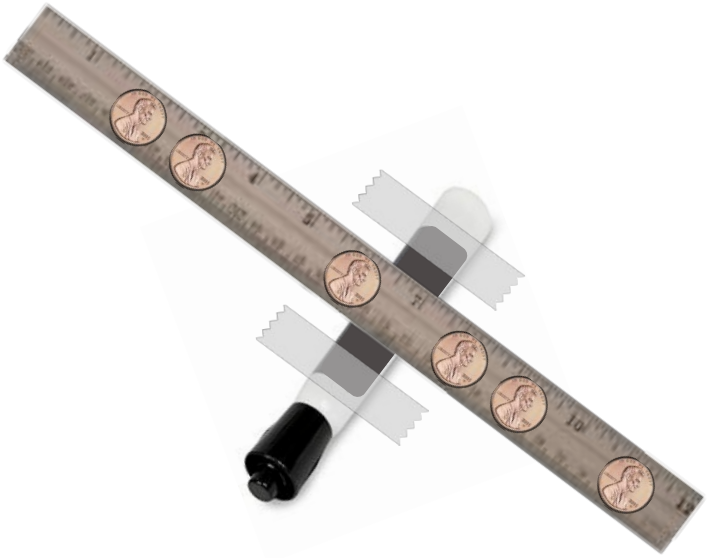
Instructions:

1. Estimate the balancing point:
    a. Tape a marker securely to your desk.



    b. Model the data set by centering pennies on the 2-inch, 3-inch, 6-inch, 8-inch, 9-inch, and 11-inch marks on a 12-inch ruler.

    c. Carefully place the ruler on top of the marker. Make sure that the coins do not move from their original positions. If necessary, you can tape the pennies to the ruler. Try to balance the ruler on the marker. To the nearest half inch, at what value on the ruler is the data balanced?



    d. Now, find the actual mean of the data set. What do you notice?

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2. Answer the following questions:

   a. Use the ruler method to find the mean of each data set below:

      i. 2, 2, 8, 9, 9

      ii. 1, 3, 4, 7, 8, 10

      iii. 4, 5, 5, 9, 11, 11

   b. Suppose a ruler with several coins is balanced on a marker. What happens when you move some of the coins to the right? To the left? Explain how this affects the mean.

   c. What does the balancing point of a data set represent? Explain.