LAB: Mean as a Balance Point

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10 points

Get into groups as shown on the smartboard. Take one ruler, one bag of pennies, a pencil, and a worksheet for *each person* and follow your teacher's direction as to where and how you will set up your Lab.

1. Stack all 5 pennies above the 6-inch mark on your ruler. Place your pencil under the ruler to make a "seesaw" on the floor. Move the pencil until the ruler balances.

What is the relationship between the location of the pencil and the mean of the five data values:

6, 6, 6, 6, 6 ? _____

2. Move one penny off the stack to the 8-inch mark on your ruler. Now move one other penny so that the ruler balances without moving the pencil.

Where did you put the other penny? _____

Where is the *balance point* of the ruler? _____

What is the *mean* of the five data values represented by the pennies now? _____

Is this data *symmetrical* or *skewed*? _____

Draw your result as a *dotplot* here: *(remember to include labels and scales)*

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3. Move one more penny off the stack to the 2-inch mark on your ruler. Now move both remaining pennies from the 6-inch mark so that the ruler still balances with the pencil in the same location.

Where did you put the other pennies? _____

Where is the *balance point* of the ruler? _____

What is the *mean* of the five data values represented by the pennies now? _____

Is this data *symmetrical* or *skewed*? _____

Draw your result as a *dotplot* here: *(remember to include labels and scales)*

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4. Create another set of data using all 5 pennies and has a *mean* of 6.

Draw the *dotplot* here: *(remember to include labels and scales)*

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Where is the *balance point* of the ruler? _____

What is the *mean* of the five data values represented by the pennies now? _____

Is this data *symmetrical* or *skewed*? _____

5. Create a *skewed right* set of data using all 5 pennies and has a *mean* of 6.

Draw the *dotplot* here: *(remember to include labels and scales)*

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Where is the *balance point* of the ruler? _____

What is the *mean* of the five data values? _____

6. Create a *skewed left* set of data using all 5 pennies and has a mean of 6.

Draw the *dotplot* here: *(remember to include labels and scales)*

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Where is the *balance point* of the ruler? _____

What is the *mean* of the five data values? _____

7. *Why is the* *mean* *called the* *balance point* *of the data?* _____

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8. Calculate the *median* for problems #1-6. Label the *mean* and the *median* on the *dotplot* for each set of data.