

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Balancing Point

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

1. Use the instructions below to find the **balancing point** of the following set of numbers:  
2, 3, 5, 6, 9.

Instructions:

**Step 1:** Drag a token and place it above each of the numbers in the set (2, 3, 5, 6, 9)

**Step 2:** Make sure "Find Mean" is selected.

**Step 3:** Click and drag the yellow triangle (fulcrum) until the green line is balanced (horizontal).

**Step 4:** Click on "Show Calculation" to have the computer calculate the mean.

What do you notice?

The screenshot shows an interactive tool titled "Introduction to Data Science" with the subtitle "Mean, Median, and Mode". It includes several steps and a visual representation of a balance beam.

**Step 1: Drag tokens below:** A box contains five red circular tokens. Below the box is a number line from 1 to 10. Tokens are placed at positions 2, 3, 5, 6, and 9. A red box labeled "Step 1: Place the tokens" points to this area.

**Step 2: Choose a Study:** Three radio buttons are shown: "Find Mean" (selected), "Find Median", and "Find Mode". A red box labeled "Step 2: Select Mean" points to the "Find Mean" button.

**Step 3: Move Balance Point:** A balance beam is shown with a green line. Tokens are placed at positions 2, 3, 5, 6, and 9. A yellow triangle (fulcrum) is positioned at 5.5. The beam is tilted, and the text "Not Balanced" is displayed. A red box labeled "Step 3: Drag the fulcrum until the line balances" points to the fulcrum.

**Step 4: Click here** A red box labeled "Step 4: Click here" points to the "Show Calculation" button.

Array : 2,3,5,6,9  
☐ Show Result  
☐ Show Calculation

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2. Answer the following questions:

a. Use the balancing method to find the mean of each dataset below:

i. 2, 2, 8, 9, 9

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

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

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

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