**Problem Statement 1:**

Find the variance for the following set of data representing trees in California (heights in feet): 3, 21, 98, 203, 17, 9

**Solution:**

Step 1: Add up the numbers in your given data set.

3 + 21 + 98 + 203 + 17 + 9 = 351

Step 2: Square your answer:

351 × 351 = 123,201

…and divide by the number of items. We have 6 items in our example so:

123,201 / 6 = 20,533.5

Step 3: Take your set of original numbers from Step 1, and square them individually this time:

3 × 3 + 21 × 21 + 98 × 98 + 203 × 203 + 17 × 17 + 9 × 9

Add those numbers (the squares) together:

9 + 441 + 9604 + 41209 + 289 + 81 = 51,633

Step 4: Subtract the amount in Step 2 from the amount in Step 3.

51,633 – 20,533.5 = 31,099.5

Step 5: Subtract 1 from the number of items in your data set\*. For our example:

6 – 1 = 5

Step 6: Divide the number in Step 4 by the number in Step 5. This gives you the **variance**:

31,099.5 / 5 = 6,219.9