

## Average, Mode, and Median

Although an average, or mean, is the most common way to simplify a list of numbers, there are other mathematical tools that can help you work with lists of numbers. **Mode** is the number or value that appears most often in a particular set of numbers. **Median** is the number that falls in the *numerical center* of a list of numbers. Read on to find out how to find mode and median.

PROCEDURE: *To find the mode*, list your numbers in numerical order. Then determine which number appears most often in the set. That number is the mode. **Note:** A list of numbers may have more than one mode. If no number appears more often than the others, that series of numbers does not have a mode.

SAMPLE PROBLEM: Find the mode of 4, 3, 6, 10, and 3.

Step 1: List the numbers in numerical order.

3, 3, 4, 6, 10

Step 2: Determine the number that appears most often in the set.

3, 3, 4, 6, 10

The mode of 4, 3, 6, 10, and 3 is 3.

PROCEDURE: *To find the median*, list the numbers in numerical order. Next determine the number that appears in the middle of the set. **Note:** If more than one number falls in the middle, the median is the average of those numbers.

SAMPLE PROBLEM: Find the median of 25, 22, 24, 19, 25, 14, 26, and 15.

Step 1: List the numbers in numerical order.

14, 15, 19, 22, 24, 25, 25, 26

Step 2: Determine which number falls in the middle of the set.

14, 15, 19, 22, 24, 25, 25, 26

Because two numbers fall in the middle (22 and 24), the median is their average.

$$\text{Median} = (22 + 24) \div 2 = 23$$

### Get in the Mode!

1. Find the mode and median for the following sets of numbers:

a. 37, 30, 35, 37, 32, 40, 34

Mode \_\_\_\_\_ Median \_\_\_\_\_

b. 19, 29, 9, 12, 10

Mode \_\_\_\_\_ Median \_\_\_\_\_

c. 109, 84, 88, 107, 84, 94

Mode \_\_\_\_\_ Median \_\_\_\_\_

d. 26, 53, 39, 53, 49, 56, 35, 26

Mode \_\_\_\_\_ Median \_\_\_\_\_

e. 25 m, 24 m, 27 m, 27 m, 49 m, 47 m, 45 m

Mode \_\_\_\_\_ Median \_\_\_\_\_

f. 98 L, 99 L, 101 L, 111 L, 132 L, 103 L

Mode \_\_\_\_\_ Median \_\_\_\_\_

Average, Mode, and Median, continued

**Peregrine Falcons—How Fast Can They Fly?**

The peregrine falcon is the fastest bird in the world. It can reach speeds of almost 300 km/h when hunting. An ornithologist, a scientist who studies birds, has gathered the data in the chart below to try to learn exactly how fast the falcons can fly. Use what you have learned about averages, modes, and medians to analyze some of the birds' top speeds.

Falcon Flight Speeds\*

Day	Falcon A	Falcon B	Falcon C	Falcon D	Falcon E
1	189	199	211	253	199
2	275	261	241	235	279
3	262	225	271	190	271
4	203	199	223	185	265
5	241	227	209	199	253
6	222	240	265	253	232
7	203	203	240	260	279

\*All flight speeds are in km/h.

2. What was the average top speed of Falcon B for the entire week?

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\_\_\_\_\_

3. What were the modes for Falcon D and Falcon E for the entire week?

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\_\_\_\_\_

4. Which had a faster median speed for the week, Falcon A or Falcon B?

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\_\_\_\_\_

5. What were the median speeds for Falcon B and Falcon D for days 1–6?

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