

-9.4
-1.6
-13.6

Show your work.

a. _____

Step 3 Find the average of the absolute values of the differences between each value in the data set and the mean.

$$\frac{24 + 16 + 6 + 4 + 2 + 8 + 16 + 24}{8} = 12.5$$

The mean absolute deviation is 12.5. This means that the average distance each data value is from the mean is 12.5 miles per hour.

Got It? Do this problem to find out.

- a. The table shows speeds of ten birds. Find the mean absolute deviation of the data. Round to the nearest hundredth. Describe what the mean absolute deviation represents.

Speeds of Top Ten Fastest Birds (mph)				
88	77	65	70	65
72	95	80	106	68

Handwritten calculations showing the mean absolute deviation for the bird speeds data:

$$\begin{array}{r} (78.6 - 88) \\ (78.6 - 77) \\ (78.6 - 65) \\ (78.6 - 70) \\ (78.6 - 65) \\ (78.6 - 95) \\ (78.6 - 106) \\ (78.6 - 68) \\ \hline = 786 \\ 10 \\ \hline = 78.6 \end{array}$$


Show your work.

10.92 miles per hour;
a. **Sample answer: The average distance each data value is from the mean is 10.92 miles per hour.**

Got It? Do this problem to find out.

- a. The table shows speeds of ten birds. Find the mean absolute deviation of the data. Round to the nearest hundredth. Describe what the mean absolute deviation represents.

Speeds of Top Ten Fastest Birds (mph)				
88	77	65	70	65
72	95	80	106	68

Guided Practice



1. Find the mean absolute deviation for the set of data. Round to the nearest hundredth if necessary. Then describe what the mean absolute deviation represents. (Example 1)

Number of Daily Visitors
to a Web Site

112 145 108 160 122

18.48 visitors; Sample answer: The average distance each data

value is from the mean is 18.48 visitors.

2. The table shows the height of waterslides at two different water parks. Find the mean absolute deviation for each set of data. Round to the nearest hundredth. Then write a few sentences comparing their variation. (Example 2)

Height of Waterslides (ft)									
Splash Lagoon					Wild Water Bay				
75	95	80	110	88	120	108	94	135	126

Splash Lagoon: 10.32 feet; Wild Water Bay: 12.48 feet;

Sample answer: The mean absolute deviation of the heights at Splash Lagoon is less than the mean absolute deviation of the heights at Wild Water Bay. The heights at Splash Lagoon are closer together.

3.  **Building on the Essential Question** What does the mean absolute deviation tell you about a set of data?

Sample answer: It tells the average distance of each data value from the mean, which lets you know if the data values are close together and close to the mean, or close to the extremes and farther from the mean.

Re

