Answers and talk notes

Describe Data by Mean Absolute Deviation

What your student is learning

Tonight we find the mean absolute deviation (MAD): the average distance of each number from the mean. It tells us how spread out the data is.

Answers

Ask your student to explain before you look.

1. **A.** How far the values are from the mean, on average. MAD tells how far the values are from the mean, on average. So the answer is: How far the values are from the mean, on average.
2. **B.** 4. The distance is 14 – 10 = 4.
3. **C.** 2. 4 + 0 + 2 + 2 = 8 and 8 ÷ 4 = 2.
4. **A.** 4. The distances are 6, 0, 6. Their sum is 12 and 12 ÷ 3 = 4.
5. **B.** 3. The distances are 3, 3, 1, 5. Their sum is 12 and 12 ÷ 4 = 3.
6. **D.** 20, 21, 22. The values 20, 21, 22 sit close to their mean, so they have the smaller MAD.

Talk about it

Can a distance from the mean be negative?

Home mission

Pick four whole-dollar prices on a receipt. Find their mean together. Then say how far each price is from the mean. Is the MAD small or big?

When they are stuck, ask

- What is the mean first? We need it before anything else.
- How far is each number from the mean? Count the distance.
- Is this MAD small or large? What does that say about the data?

Try not to say

- Keep the minus signs when you average the deviations.
- A bigger mean means a bigger MAD.
- You can skip finding the mean and just guess the spread.