Answers and talk notes

Choose Appropriate Measures

What your student is learning

Tonight we decide which measure of center, the mean or the median, best describes a "typical" value for a data set.

Answers

Ask your student to explain before you look.

1. **A.** A value that is far from the rest of the values. An outlier is a value that is far from the rest of the values. So the answer is: A value that is far from the rest of the values.
2. **B.** 60. Four values are between 12 and 15, and 60 is far above them, so 60 is the outlier.
3. **C.** The mean. The mean adds every value, so a far value pulls the mean toward it.
4. **A.** The median, 10. In order: 8, 9, 10, 11, 95. The median is 10, which matches a typical day. The median, 10.
5. **B.** The mean and the median are both 22, so either describes a typical value. The sum is 110 and 110 ÷ 5 = 22, and the middle value is 22 too: the mean and the median are both 22, so either describes a typical value. So the answer is: The mean and the median are both 22, so either describes a typical value.
6. **D.** The median, 4, describes a typical value better than the mean. The 36 is an outlier, so the median, 4, describes a typical value better than the mean. So the answer is: The median, 4, describes a typical value better than the mean.

Talk about it

How many of the seven games look close to that number?

Home mission

Write five prices from a receipt. Change the biggest price to a huge number, like $90. Does the middle price change? Does the mean change?

When they are stuck, ask

- Is there a number that is much bigger or smaller than the rest?
- Would that one number pull the mean up or down?
- Which answer better matches most of the numbers?

Try not to say

- The mean is always the best way to show a typical value.
- An outlier does not change the mean.
- Just pick whichever number is bigger.