

Measures of Center and Spread - Mean, Median, and Standard Deviation

Find the median, mean, and population standard deviation for each data set.

- 1) Car Weights (kg)
- | | | | | |
|-------|-------|-------|-------|-------|
| 1,240 | 1,120 | 1,395 | 1,570 | 1,570 |
| 1,040 | 1,390 | 860 | 1,750 | 1,470 |
| 1,780 | 1,335 | 1,485 | 1,515 | 1,310 |
| 1,615 | | | | |

A company designs a new bullet-proof car. It weighs 2,403 kgs.

- 2) How would adding this number into the data set impact the mean?
- The mean would decrease since the number being added is below the other numbers in the data set.
 - The mean would stay about the same since the number being added is closely related to other numbers in the data set.
 - The mean would stay about the same even though the number being added is outside the data set.
 - The mean would increase since the number being added is above the other numbers in the data set.
- 3) How would adding this number into the data set impact the median?
- The median would decrease.
 - The median would stay the same.
 - The median is always the same, regardless of how many numbers are added to the data set.
 - The median would increase.
- 4) How would adding this number into the data set impact the standard deviation?
- The standard deviation would increase because the number added to the data set is larger than the other numbers in the data set.
 - The standard deviation would increase because the number added to the data set is relatively far away from the mean.
 - The standard deviation would decrease because the number added to the data set is relatively close to the mean.
 - The standard deviation would decrease because the number added to the data set is smaller than the other numbers in the data set.

Find the median, mean, and population standard deviation for each data set.

- 5) # Words in Book Titles
- | | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | 5 | 6 | 2 | 3 | 2 | 5 | 3 |
| 1 | 2 | 1 | 3 | 2 | 2 | 2 | |

A book is added to the collection that has 3 words in the title.

- 6) How would adding this number into the data set impact the mean?
- The mean would increase since the number being added is above the other numbers in the data set.
 - The mean is always the same, regardless of what numbers are in the data set.
 - The mean would stay about the same since the number being added is closely related to other numbers in the data set.
 - The mean would decrease since the number being added is below the other numbers in the data set.

- 7) How would adding this number into the data set impact the median?
- A) The median would increase.
 - B) The median would decrease.
 - C) The median would stay the same.
 - D) The median is always the same, regardless of how many numbers are added to the data set.
- 8) How would adding this number into the data set impact the standard deviation?
- A) The standard deviation would decrease because the number added to the data set is smaller than the other numbers in the data set.
 - B) The standard deviation would increase because the number added to the data set is relatively far away from the mean.
 - C) The standard deviation would decrease because the number added to the data set is relatively close to the mean.
 - D) The standard deviation would increase because the number added to the data set is larger than the other numbers in the data set.

Find the median, mean, and population standard deviation for each data set.

- 9) Goals in a Hockey Game
- | | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5 | 5 | 3 | 5 | 5 | 6 | 6 | 4 |
| 3 | 5 | 4 | 3 | 6 | 3 | 5 | 9 |

A particularly low-scoring hockey game is played with only one goal scored.

- 10) How would adding this number into the data set impact the mean?
- A) The mean would decrease since the number being added is below the other numbers in the data set.
 - B) The mean would stay about the same since the number being added is closely related to other numbers in the data set.
 - C) The mean would stay about the same even though the number being added is outside the data set.
 - D) The mean would increase since the number being added is above the other numbers in the data set.
- 11) How would adding this number into the data set impact the median?
- A) The median is always the same, regardless of how many numbers are added to the data set.
 - B) The median would increase.
 - C) The median would decrease.
 - D) The median would stay the same.
- 12) How would adding this number into the data set impact the standard deviation?
- A) The standard deviation would stay about the same because the number added to the data set is relatively close to the mean.
 - B) The standard deviation would increase because the number added to the data set is relatively far away from the mean.
 - C) The standard deviation would decrease because the number added to the data set is relatively close to the mean.
 - D) The standard deviation would increase because the number added to the data set is larger than the other numbers in the data set.