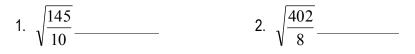
ALGEBRA II Chapter 11 section 1 - Find Measures of Central Tendency and Dispersion pg. 744

WARM – UP:

Simplify the expression. Round the answer to the nearest tenth.



3. The monthly profit from team jackets can be modeled by 1600 - (p - 60), where p is the price in dollars of a jacket. What is the value of the expression when p = 80?

VOCAB:

Statistics: numerical values used to summarize and compare sets of data

Measure of Central Tendency: numbers used to represent the middle (central) of a data set

Mean: average; \overline{x} ; add all numbers and divide by how many there are

Median: middle – when numbers are put in order small \rightarrow big

Mode: most occurring values

Measure of Dispersion: ______ statistic that shows how spread out the values are

Range: largest value minus smallest value

Standard Deviation: typical difference (or σ (deviation)) between a data value and the mean \overline{x}

Outlier: a value that is much larger than or much less than most of the other values in a data set

NOTES:

The data sets give the times in minutes for runners in two races. Find the mean, median, mode(s), and range of each data set, and the standard deviation.

			ſ		n		
			4, 7, 8, 8,	, 9, 9, 10, 11, 12	5, 6, 6, 7,	8, 8, 8, 10	, 11
Mean (\overline{x}) A	В	Median _	Α	В	Mode_	Α	В
Range <u>A</u>	<u> </u>	Standard	d Deviatio	n(<u> </u>	В	_	

Standard Deviation by hand: $\sigma = \sqrt{\frac{(x_1 - \overline{x})^2 + (x_2 - \overline{x})^2 + \cdots}{n}}$

Steps:

- 1. find the mean \overline{x}
- 2. do $x \overline{x}$ for each value and square each square each answer
- 3. add above answers
- 4. divide by # of terms
- 5. square root the answers

You are training for a triathlon. The miles that you ride your bicycle for 7 weeks are 17, 20, 16, 18, 22, 19, and 20.

Find the mean, median, mode, range, and standard deviation. \bar{x} Median Mode Range σ

Your mileage the next week is an outlier, 3. Find the new mean, median, mode, range, and standard deviation.

_____ Median_____ Mode_____ Range_____ σ_____

Which measure of central tendency does the outlier affect the most?_____ The least?_____

How does the outlier change the range and standard deviation?

What questions do you have? So you don't forget to ask!