Standard Deviation Worksheet NAME_____ HOUR_____

Today we are going to learn about STANDARD DEVIATION. First let's review what we already know about mean, median, mode, and range.

1) MEAN:

2) MEDIAN:

3) MODE:

4) RANGE:

If we have the following list of numbers, let's find the mean, median, mode, and range.

2, 3, 5, 7, 8, 10, 11, 11, 13, 15, 17, 18

5) MEAN:	6) MEDIAN:	7) MODE:	8) RANGE

While these values do tell us a lot about the list, it does not tell us much about how far apart the numbers are from each other. To do this, we need to calculate what is called the STANDARD DEVIATION.

9) STANDARD DEVIATION:

10) To calculate the standard deviation, we need to use the STAT button on our calculator and enter the list above. Next, press the STAT button again and go to the CALC tab and choose 1-Var Stats and press enter. You will see lots of numbers here is a chart to help you understand what some of the numbers mean. Once you understand the list, find the value of each term.

$\bar{x}$ = Mean	$\bar{x}$ =
σx = Standard deviation	σx =
Med = Median	Med =
Range = MaxX-MinX	Range =

11) What does the standard deviation mean in this case?

12) Answer each question using the list below
123, 100, 111, 124, 132, 154, 132, 160

Mean =

Median=

Standard deviation=

Range=

What does the standard deviation mean in this case?

13) Answer each question using the list below
4, 5, 8, 1, 2, 3, 9, 8, 7, 6, 2

Mean =

Median=

Standard deviation=

Range=

What does the standard deviation mean in this case?

14) Answer each question using the list below
23, 10, 11, 24, 32, 15, 13, 16

Mean =

Median=

Standard deviation=

Range=

What does the standard deviation mean in this case?

15) Answer each question using the list below
3123, 1040, 1511, 2124, 1332, 2154, 5132, 6160

Mean =

Median=

Standard deviation=

Range=

What does the standard deviation mean in this case?

16) Answer each question using the list below
4, 8, 6, 10, 16, 14, 12, 18

Mean =

Median=

Standard deviation=

Range=

What does the standard deviation mean in this case?

Answers

1) MEAN: The average of a set of numbers

2) MEDIAN: The middle number when a list is written in order. If there are two middle numbers, the median is the average of those two numbers
3) MODE: The most frequent number in a list. In the case of multiple modes, the list is said to have no mode.
4) RANGE: The difference between the largest and smallest numbers in a list of numbers.

5) MEAN:10	6) 10.5	7) MODE:11	8) RANGE16

9) STANDARD DEVIATION: The average distance of all of the numbers in a list from the mean.

10) $\bar{x} = 9.9$
$\sigma x = 5.21$
Med = 10
Range = 13

11) What does the standard deviation mean in this case? The numbers in the list are an average of 5.21 units away from 9.9

12) Mean =129.5
Median=128
Standard deviation=18.8
Range=60
What does the standard deviation mean in this case? The numbers in the list are an average of 18.8 units away from 129.5

13) Mean =5
Median=5
Standard deviation=2.66
Range=8
What does the standard deviation mean in this case? The numbers in the list are an average of 2.66 units away from 5

14) Mean =18
Median=15.5
Standard deviation=7.14
Range=22
What does the standard deviation mean in this case? The numbers in the list are an average of 7.14 units away from 18

15) Mean =2822
Median=2139
Standard deviation=1754.16
Range=5120
What does the standard deviation mean in this case? The numbers in the list are an average of 1754.16units away from 2822

16) Mean =11
Median=11
Standard deviation=4.58
Range=14
What does the standard deviation mean in this case? The numbers in the list are an average of 4.58units away from 11