

Math 1

- Toolkits
- glue sticks
- calculators

Quiz tomorrow

- ↳ Histograms
- ↳ Best measure of center
- ↳ Box plot
- ↳ Standard Deviation

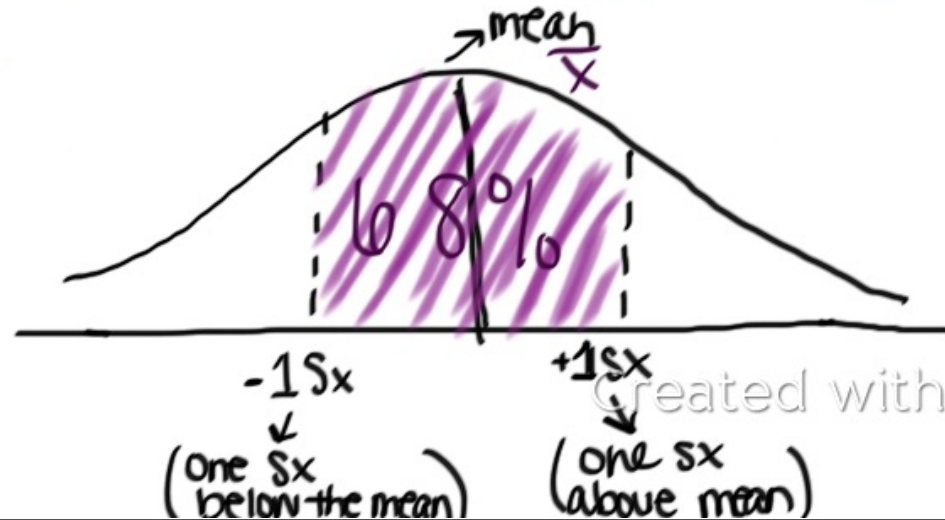
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How to interpret the Standard Deviation

- The standard deviation is a measure of how spread out data is.
- A Small standard deviation means the data is close together (^{more}consistent)
- A large standard deviation means the data is spread out (less consistent)
- 68 % of data is 1 standard deviation above and below the mean.

\bar{x} = mean
 s_x = standard
Deviation



Data Set #1	3	27	44	70	98
Data Set #2	20	24	22	27	16

	Data Set #1	Data Set #2
S_x	Standard Deviation = 36.96	Standard Deviation = 4.15
\bar{x}	Mean = 48.4	Mean = 21.8
	<p>* Larger standard deviation because the data is more spread out (from 3 to 98)</p> <p>→ One S_x below the mean. $48.4 - 36.96 = \boxed{11.44}$</p> <p>→ One S_x above the mean $48.4 + 36.96 = \boxed{85.36}$</p> <p>* 68% of the data is between 11.44 + 85.36.</p>	<p>* smaller standard deviation because the data is closer together (from 16 to 27)</p> <p>→ one S_x below mean $21.8 - 4.15 = \boxed{17.65}$</p> <p>→ one S_x above mean $21.8 + 4.15 = 25.95$</p> <p>* 68% of the data is between 17.65 + 25.95</p>

PRACTICE PROBLEM #2:

For the following sets of data, calculate the mean and standard deviation of the data. Describe the mean and standard deviation in words after calculating it.

- a. The data set below gives the prices (in dollars) of cordless phones at an electronics store

35, 50, 60, 60, 75, 65, 80

$$S_x = 15.11$$

$$\bar{X} = 60.7$$

- 68% of the data is between 45.59 & 75.81

- Data is less consistent or more spread.

$$60.7 - 15.11 = 45.59$$

$$60.7 + 15.11 = 75.81$$

- b. The data set below gives the numbers of home runs for the 10 batters who hit the most home runs during the 2005 Major League Baseball regular season.

51, 48, 47, 46, 45, 43, 41, 40, 40, 39

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