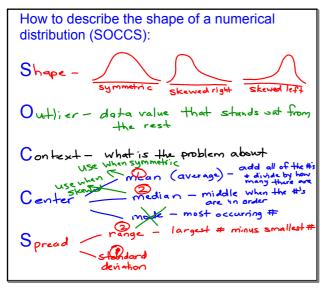---

Sep 8-11:47 AM

Learning Targets
- I can construct a dot plot to describe numerical data
- I can describe numerical distributions using SOCCS
- I can calculate measures of central tendency (mean, median, mode) and measures of spread (range, standard deviation)
- I can decide which is the best measure of center or spread to use in certain situation
- I can calculate the mean (x) of a set of data by hand and by using the calculator
- I can calculate the standard deviation (s_x) of a set of data by hand and using the calculator

Oct 23-7:00 PM

How to describe the shape of a numerical distribution (SOCCS):

S hape - symmetric   skewed right   skewed left

O utlier - data value that stands out from the rest

C ontext - what is the problem about

C enter - use when symmetric → mean (average) - add all of the #'s + divide by how many there are
use when skewed → median - middle when the #'s are in order
mode - most occurring #

S pread - range - largest # minus smallest #
standard deviation

Oct 26-11:05 PM

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http://www.povertyusa.org/the-state-of-poverty/poverty-usa-tour/

Listed below are the child poverty rates for 10 states in the US:

14% (MN)   14.8% (UT)   18.8% (WA)
13.2% (WY)   10.2% (NH)   13.6% (MD)
24.5% (FL)   27.2% (AL)   34% (MS)
31.2% (NM)

10.2, 13.2, 13.6, 14, 14.8, 18.8, 24.5, 27.2, 31.2, 34

Find the mean, median, mode and range.

mean = $\bar{x}$ = 20.15%
* median = Med = 16.8%
mode = none
range = 34 - 10.2 = 23.8%

Jan 25-10:41 PM

Here are the hourly wages of 10 employees at Walgreens:

$8, $8, $9, $10, $18, $20, $8, $8, $9, $9

8 8 8 8 9 9 9 10 18 20

Find the mean, median & mode. Which is the better measure of center?

mean = $10.70
* median = $9
mode = $8

skewed right
8 9 10 11 12 13 14 15 16 17 18 19 20

Oct 26-9:36 PM

Isn't the mean enough?

Two experimental brands of outdoor paint were tested to see how long they lasted before fading. Below are the results (in months). Find the mean of each.

Brand:	NeverFade	LastALifetime
	10	35
	50	45
	60	30
	30	35
	40	40
	20	25
mean:	35	35

$S_x = 18.7$ months $S_x = 7.1$ months

Which would you buy based on the mean?

Oct 31-2:01 PM

Standard Deviation (s_x)
• Measures the average distance of all the data from the mean.
• Measure of the spread
• Always positive or equal to 0
• s_x = 0 means there is no spread at all
• As the data gets more spread out, s_x gets larger

Oct 31-2:15 PM

Let's find the standard deviation for our brands of paint
We'll do this one by hand:

Brand: **NeverFade**
10
50
60
30
40
20

Oct 31-2:17 PM

Let's do this one on a calculator:
Brand: **LastALifetime**
35
45
30
35
40
25

Jan 27-10:26 AM

If there are outliers in your data (data is skewed), use the median as the best measure of the center of the data and the range as the best measure of spread.

If the data is symmetric, use the mean as the best measure of the center of your data and the standard deviation as the best measure of spread.

Jan 25-10:50 PM

Section 5.2
p. 151 #1-5, 7, 8
        Learning Targets
   • Construct a dot plot to describe numerical data
   • Describe numerical distributions using SOCS
   • Calculate measures of central tendency (mean, median, mode) and measures of spread (range, standard deviation)
   • Decide which is the best measure of center or spread to use in a certain situation
   • Calculate the mean (x) of a set of data by hand and by using the calculator
   • Calculate the standard deviation (s_x) of a set of data by hand and using the calculator

Oct 23-7:10 PM

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