Ch 2.4

Measures of Central Tendency - are numbers used to represent the middle of the data.

1. *Mean-* (average) the sum of the numbers dividing by how many in the set of data.

$$\overline{x} = \frac{\Sigma x}{n}$$

2. *Median* - is the number in the middle when the data is placed in numerical order or average of the 2 middles.
$$\tilde{x}$$

3. *Mode* - the number(s) that appear the most often in the data set.   M

bimodal- has 2 modes

multimodal- has more than 2 modes.

4. *Midrange-* average of the highest and lowest scores. (H + L)÷2
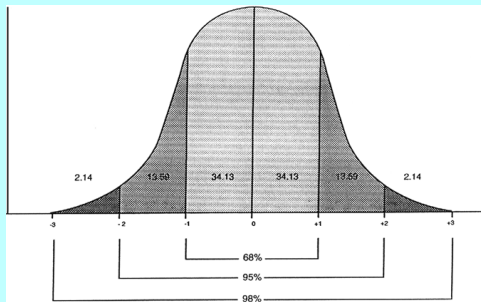
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Ex1a) Find the measures of central tendency:
15, 22, 19, 8, 32, 28, 5, 36, 14, 20
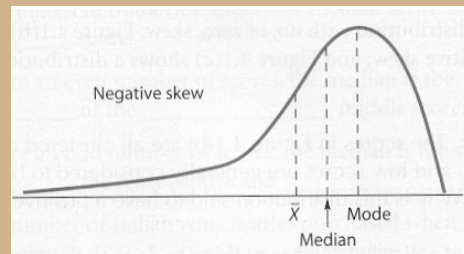
Ex1b) 88, 95, 74, 85, 92, 88, 98, 92, 59

Feb 9-1:28 PM

If the mean, median, and mode are the same, then the set of data represents a *normal distribution.*
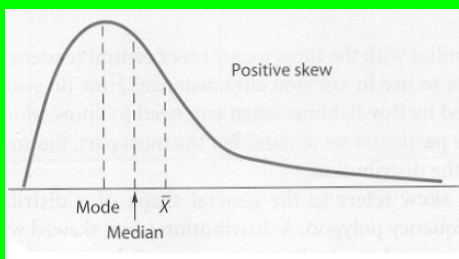

Feb 9-1:49 PM

A score is pulling the average down. Example someone took a zero on their test.

Feb 9-1:53 PM

A score is pulling the average of the data set to the right. Example someone gets an A+ and most people got a C.

Feb 9-1:53 PM

Feb 9-1:48 PM

1

1 Find the mean for the following set of data:

16, 8, 35, 2, 22, 10, 31, 50, 13, 35, 56, 28

Feb 9-1:40 PM

2 What is the median of the data set:

Feb 9-1:47 PM

3 What is the mode?

Feb 9-1:48 PM

4 What is the midrange?

Feb 16-8:05 AM

Ex 2) Measures of Central Tendency for frequency tables.

$$\overline{x} = \frac{\Sigma(f \cdot x)}{\Sigma f}$$

Σ = sum
f = frequency
x = midpoint from each class

	classes	frequency	midpoint	f · x
1	70 - 89	36		
2	90 - 109	48		
3	110 - 129	84		
4	130 - 149	39		
5	150 - 169	33		
6	170 - 189	18		

Feb 16-8:06 AM

Feb 16-8:27 AM

1 **What is the mean for the following set of data?**
Round to the nearest tenth.

classes	frequency
0-2	20
3-5	14
6-8	15
9-11	2
12-14	1

Feb 16-8:16 AM

Ex3) Weighted Mean- $\dfrac{\Sigma(w \cdot x)}{\Sigma w}$

* don't convert % to decimals in formula

Your grades are weighted: homework is 25%
tests and quizzes are 75%

Ex 3a)hwk: 98 A   tests and quizzes 84 C+

Ex3b) Semester grades are weighted. Quarter 1
40%, Quarter 2 40%, and Final is 20%.

Qtr 1: 78 C-, Qtr 2: 89 B, Final 72 D

Feb 16-8:19 AM

1 **Find the weighted mean if you have 92 % for homework and 85 % for test and quizzes for your stats class.**

Round to the nearest ones position.

Feb 16-8:23 AM