

11.2 Median & Mode

Objective: To calculate the median and mode.



Median

Median - The midpoint of a data set

Example: {33, 43, 35, 41, 35, 40, 36, 36, 36}

Step 1: Put the numbers in numerical order

33, 35, 35, 36, 36, 36, 40, 41, 43

Step 2: Cross off the left value and then the right.
Repeat until you are in the middle.

→ IF you have one value left, that is the median

→ IF you have two values left, add them together and divide by 2.

~~33, 35, 35, 36, 36, 36, 40, 41, 43~~

Mode

Mode – The value in the data set that occurs **Most Often.**

Example: {2, 7, 1, 10, 1, 0, 3, 1, 3, 4}

Step 1: Put the numbers in numerical order
0, 1, 1, 1, 2, 3, 3, 4, 7, 10

Step 2: Identify the value that repeats **Most Often**

Mode = 1

Note: If each value occurs only once, there is no mode!

Mode Continued

Example #2: {10, 21, 10, 11, 12, 15, 11}

Step 1: Put the numbers in numerical order

10, 10, 11, 11, 12, 15, 21

Step 2: Identify the values that repeats Most Often

Two modes exists: 10 and 11

Practice #1

Find the **median** and **mode** for the following:

{14, 10, 15, 11, 20, 19, 14}

Median: ~~10~~, ~~11~~, ~~14~~, 14, ~~15~~, ~~19~~, ~~20~~

Median is 14

Mode: 10, 11, 14, 14, 15, 19, 20

Mode is 14

Practice #2

Find the **median** and **mode** for the following:

{9, 14, 8, 17, 9, 7, 13, 10 }

Median: ~~7~~, ~~8~~, ~~9~~, 9, 10, ~~13~~, ~~14~~, ~~17~~

$$= (9 + 10) \div 2$$

$$= 19 \div 2 = 9.5$$

Median is 9.5

Mode: 7, 8, **9**, **9**, 10, 13, 14, 17

Mode is 9