Unit 9: Statistics & Probability
WB § 9.1 Central Tendency

Statistics is the mathematical study of sets of numbers.

Central Tendency is the use of one number (or very few numbers) to describe a set of numbers

mean: the arithmetic average of a data set (a set of numbers). The mean is found by adding the elements of the set and dividing by the number of elements in the set

Ex, find the mean of $\{11, 10, 12, 11, 16\}$

$$mean = \frac{sum\ of\ all\ elements}{number\ of\ elements}$$

$$mean = \frac{11 + 10 + 12 + 11 + 16}{5}$$

$$\boxed{mean = 12}$$

median: the median is the number found at the centre of an ordered set.

Ex: find the median of $\{11, 10, 12, 11, 16\}$

- 1st, put the set in order:

$$\{10, 11, 11, 12, 16\}$$

- $\boxed{\text{the median is } 11}$

⊛ If there are an even number of elements in the set, then there is only one median: it is the mean of the two central elements.

mode: the mode is the most frequently occurring value in a data set

Ex: what is the mode of $\{11, 10, 12, 11, 16\}$

twice = most

$\boxed{\text{-The mode is } 11.}$

⊛ If all elements only occur once, then there is no mode.
⊛ If there is a tie, then there are multiple modes.