The best way to analyze statistics of one variable is through the three measures of central tendency: mean, median and mode. The three measures of central tendency give three different values (numbers) that all of the data tends to cluster around. **Read through the following terms and examples.**

Measure of Central Tendency	*Description*	*How to calculate it*
Mean class average.	The sum of all data points, divided by the number of data points. Also called 'average' "batting average"	1. Add up all the data points. 2. Count how many data points there are. **3.** Divide your answer from 1 by your answer from 2. (sum of data/number of data points)
Median	The middle number in a set of data	1. List all the numbers from smallest to largest 2. Count over until you find the middle number. **3.** If there are two middle numbers, then find the average of those two numbers.
Mode	The number that show up most frequently in a data set	1. List all the numbers from smallest to largest **2.** Find the number that appears the most. This is the mode. Note: you can have more than one mode if there is a tie for most frequent.

Summary: Mean is the average, Median is the middle number, Mode is the most frequent number.

Example: Two classes that had the same exam had the following results. Determine the mean, median and mode for each data set.

Class A: 71, 82, 55, 76, 66, 71, 90, 84, 95, 64, 71, 70, 83, 45, 73, 51, 68
Class B: 54, 80, 12, 61, 73, 69, 92, 81, 80, 61, 75, 74, 15, 44, 91, 63, 50, 84

Solution for Class A:

$$\text{Mean} = \frac{71 + 82 + 55 + 76 + 66 \ldots + 51 + 68}{17} = \frac{1215}{17} = 71.5$$

Mean → $\frac{\text{All marks added}}{18}$

$= \frac{1159}{18}$

$= 64.4$

Therefore, the mean is _____, the median is _____, and the mode is _____.

2. Which class did better on the exam? Refer to the mean, median and mode in your answer.

3. Find the measures of central tendency (mean, median & mode) for each of the following data sets.

a) Find the measures of central tendency. 16, 35, 36, 2, 28, 17, 22, 4, 35, 16

mean = _____ median = _____ mode = _____

b) Find the measures of central tendency. 12, 15, 13, 10, 15, 13, 12, 10, 13, 16

mean = _____ median = _____ mode = _____

c) Find the measures of central tendency. 7, 13, 21, 21, 21, 21, 7, 10, 28, 11

mean = _____ median = _____ mode = _____

Median

12, 15, 44, 50, 54, 61, 61, 63, 69, 73, 74, 75, 80, 80, 81, 84, 91, 92

$$\frac{69+73}{2} = 71$$

Mode = most frequent

= 61 and 80

Therefore, the mean is 64.4, the median is 71, and the mode is 61, 80.

2. Which class did better on the exam? Refer to the mean, median and mode in your answer.

class A mean 71.5 ∴ class A did better
class B mean 64.4

3. Find the measures of central tendency (mean, median & mode) for each of the following data sets.

a) Find the measures of central tendency. 16, 35, 36, 2, 28, 17, 22, 4, 35, 16

mean = _____ median = _____ mode = _____

b) Find the measures of central tendency. 12, 15, 13, 10, 15, 13, 12, 10, 13, 16

mean = _____ median = _____ mode = _____

c) Find the measures of central tendency. 7, 13, 21, 21, 21, 21, 7, 10, 28, 11

mean = _____ median = _____ mode = _____

4. Create your own data set of ten **different** numbers (*Any numbers!*) that have a mean and median that both equal 10. **Show your calculations** for both the mean and median once you have your data set.

My data set: _____, _____, _____, _____, _____, _____, _____, _____, _____, _____.