Mean :

The "Mean" is computed by adding all of the numbers in the data together and dividing by the number elements contained in the data set.

Example :

Data Set = 2, 5, 9, 3, 5, 4, 7

Number of Elements in Data Set = 7

Mean = (2 + 5 + 9 + 7 + 5 + 4 + 3) / 7 = 5

Median :

The "Median" of a data set is dependant on whether the number of elements in the data set is odd or even. First reorder the data set from the smallest to the largest then if the number of elements are odd, then the Median is the element in the middle of the data set. If the number of elements are even, then the Median is the average of the two middle terms.

Examples : Odd Number of Elements

Data Set = 2, 5, 9, 3, 5, 4, 7

Reordered = 2, 3, 4, 5, 5, 7, 9
^

Median = 5

Examples : Even Number of Elements

Data Set = 2, 5, 9, 3, 5, 4

Reordered = 2, 3, 4, 5, 5, 9
^ ^

Median = (4 + 5) / 2 = 4.5

Mode :

The "Mode" for a data set is the element that occurs the most often.
It is not uncommon for a data set to have more than one mode.
This happens when two or more elements accur with equal frequency
in the data set. A data set with two modes is called bimodal.
A data set with three modes is called trimodal.

Examples : Single Mode

Data Set = 2, 5, 9, 3, 5, 4, 7
Mode = 5

Examples : Bimodal

Data Set = 2, 5, 2, 3, 5, 4, 7
Modes = 2 and 5

Examples : Trimodal

Data Set = 2, 5, 2, 7, 5, 4, 7
Modes = 2, 5, and 7

Range :

The "Range" for a data set is the difference between the largest value and smallest value contained in the data set. First reorder the data set from smallest to largest then subtract the first element from the last element.

Examples :

Data Set	=	2, 5, 9, 3, 5, 4, 7
Reordered	=	2, 3, 4, 5, 5, 7, 9
Range	=	(9 - 2) = 7

Examples:

1) Suppose that to pass a class, you must average a 70 on 5 tests. If you scored a 60, 78, 82, and 55 on your first four tests. What score must you make on the 5th test to pass the class.

$(5)\ \frac{60+78+82+55+x}{5} = 70(5)$

$275 + x = 350$

$-275 \quad -275$

$x = 75$

2) The mean width 15 i-phones is 3.7 inches. The mean width of 11 android phones is 4.1 inches.

a) what is the total width of all i-phones? $15(3.7) = 55.5$ in

b) what is the total width of all androids? $11(4.1) = 45.1$ in

c) what is the mean width of the i-phones and androids?

$\frac{55.5 + 45.1}{26} = 3.9$ in $\quad \frac{100.6}{26}$