

Terminology for Section 1.2

Concept	Explanation	Examples
Mean or average	To find the mean or average of n numbers, divide their sum by n .	The mean of the four numbers $-3, 5, 6, 9$ is $\frac{-3 + 5 + 6 + 9}{4} = 4.25.$
Range (one-variable)	The range of a list of data is the difference between the maximum and the minimum of the numbers or values.	The range of the data $7, 6, -4, 2, 11$ is $11 - (-4) = 15.$ (Maximum $-$ Minimum $=$ Range)
Median	The median of a sorted list of numbers equals the value that is located in the middle of the list. Half the data is greater than or equal to the median, and half the data is less than or equal to the median.	The median of $2, 3, 6, 9, 11$ is 6 , the middle data item. The median of $2, 3, 6, 9$ is the average of the two middle values: 3 and 6 . Therefore the median is $\frac{3+6}{2} = 4.5$.
Relation, domain, and range	A relation is a set of ordered pairs (x, y) . The set of x -values is called the domain and the set of y -values is called the range.	The relation $S = \{(1, 3), (2, 5), (1, 6)\}$ has domain $D = \{1, 2\}$ and range $R = \{3, 5, 6\}$.
Distance formula	The distance between (x_1, y_1) and (x_2, y_2) is $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}.$	The distance between $(2, -1)$ and $(-1, 3)$ is $d = \sqrt{(-1 - 2)^2 + (3 - (-1))^2} = 5.$
Midpoint formula	The midpoint of the line segment connecting (x_1, y_1) and (x_2, y_2) is $M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right).$ This formula can be used to make an approximation.	The midpoint of the line segment connecting $(4, 3)$ and $(-2, 5)$ is $M = \left(\frac{4 + (-2)}{2}, \frac{3 + 5}{2} \right) = (1, 4).$