



## How to do the mean median and mode

Get a Widget for this Calculator Calculate mean, median, mode along with the minimum, maximum, range, count, and sum for a set of data. Enter values separated by commas or spaces. You can also copy and paste lines of data from spreadsheets or text documents See all allowable formats in the table below. What are Mean Median and Mode? Mean, median and mode are all measures of central tendency in statistics. In different ways they each tell us what value in a data set and is found using a calculation. Add up all of the numbers and divide by the numbers in the data set. The median is the central number of a data set. Arrange data points from smallest to largest and locate the central number. This is the median. If there are 2 numbers. The mode is the number occurs in the data set. The mode is the number with the highest tally. It's ok if there is more than one mode. And if all numbers occur the same number of times there is no mode. How to Find the same as the average value in a data set. Mean Formula The mean  $\bar{x}$  of a data set is the sum of all the data divided by the count n.  $[ \text{x} = \frac{x}{n} ]$  (widetilde x) is the data value separating the upper half of a data set from the lower half. Arrange data values from lowest to highest value The median is the data value in the middle of the set If there are 2 data values in the median is 5. For the data set 1, 1, 2, 5, 6, 6, 9 the median is 5. For the data set 1, 1, 2, 6, 6, 9 the median is 4. Take the mean of 2 and 6 or, (2+6)/2 = 4. Median Formula Ordering a data set  $x_1 \le x_2 \le x_3 \le ... \le x_1$  from lowest to highest value, the median  $( \frac{x}{y})$  is the data point separating the upper half of the data values from the lower half. If the size of the data set n is odd the median is the value at position p where  $p = \frac{x_p}{y}$  is the data point separating the upper half of the data values from the lower half. If the size of the data set n is odd the median is the value at position p where  $p = \frac{x_p}{y}$  is the data point separating the upper half of the data values from the lower half. If the size of the data set n is odd the median is the value at position p where  $p = \frac{x_p}{y}$  is the data point separating the upper half of the data values from the lower half. If the size of the data set n is odd the median is the value at position p where  $p = \frac{x_p}{y}$  is the data point separating the upper half of the data values from the lower half. If the size of the data set n is odd the median is the value at position p where  $p = \frac{x_p}{y}$  is the data point separating the upper half of the data values from the lower half. If the size of the data set n is odd the median is the value at position p where  $p = \frac{x_p}{y}$  is the data point separating the upper half of the data values from the lower half. If the size of the data set n is odd the median is the value at position p where  $p = \frac{x_p}{y}$  is the data point separating the upper half of the data set n is odd the median is the value at position p where  $p = \frac{x_p}{y}$  is the data point separating the upper half of the data set n is odd the median is the value at position p where  $p = \frac{x_p}{y}$  is the data point separating the upper half of the data set n is odd the median is the value at position p where  $p = \frac{x_p}{y}$  is the data point separating the upper half of the data set n is odd the median is the value at position p where  $p = \frac{x_p}{y}$  is the data point separating the upper half of the data set n is odd the median is the value at position p where  $p = \frac{x_p}{y}$  is the data point separating the upper half of the data set n is odd the upper half of the dat  $dfrac{n}{2} \ x = dfrac{x \{p\} + x \{p+1\}}{2} \ box the Mode is 1 and also 6.$  Interquartile Range IQR = Q3 - Q1 Outliers are values that lie above the Upper Fence or below the Lower Fence of 47,,59, 40 53 42, 54, 65, 47, 59, 40, 53 Mean, median, and mode are the three measures of central tendency in statistics. We identify the central tendency. We come across data every day. We find them in newspapers, articles, in our bank statements, mobile and electricity bills. The list is endless; they are present all around us. Now the question arises if we can figure out some important features of the data. This is possible by using measures of central tendency or averages, namely mean, median, and mode. Let us understand mean, median, and mode in detail in the following sections using solved examples. Mean, Median and Mode in Statistics Mean, median, and mode are the measures of central tendency, used to study the various characteristics of a given set of data. A measure of central tendency describes a set of data by identifying the central position in the data set as a single value. We can think of it as a tendency of data to cluster around a middle value. In statistics, the three most common measures of central tendency depends on the type of data we have. Let's begin by understanding the meaning of each of these terms. Mean The arithmetic mean of a given data is the sum of all observations. For example, a cricketer's scores in five ODI matches are as follows: 12, 34, 45, 50, 24. To find his average score in a match, we calculate the arithmetic mean of data using the mean formula: Mean = Sum of all observations/Number of observations Mean = (12 + 34) +45 + 50 + 24)/5 Mean = 165/5 = 33 Mean is denoted by  $\bar{x}$  (pronounced as x bar). Types of Data Data can be present in raw form or tabular form. Let's find the mean in both cases. Raw Data Let x1, x2, x3, ..., xn be n observations. We can find the arithmetic mean using the mean formula. Mean,  $\bar{x} = (x1 + x2 + ... + xn)/n$  Example: If the heights of 5 people are 142 cm, 150 cm, 149 cm, 156 cm, and 153 cm. Find the mean height. Mean height. K = (142 + 150 + 149 + 156 + 153)/5 = 750/5 = 150 Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150 + 149 + 156 + 153)/5 = 750/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150 + 149 + 156 + 153)/5 = 750/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150 + 149 + 156 + 153)/5 = 750/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150 + 149 + 156 + 153)/5 = 750/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150 + 149 + 156 + 153)/5 = 750/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150 + 149 + 156 + 153)/5 = 750/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150 + 149 + 156 + 153)/5 = 750/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150 + 149 + 156 + 153)/5 = 750/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150 + 149 + 156 + 153)/5 = 750/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150 + 149 + 156 + 153)/5 = 750/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150 + 149 + 156 + 153)/5 = 750/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150 + 149 + 156 + 153)/5 = 750/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150 + 149 + 156 + 153)/5 = 750/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150 + 149 + 156 + 153)/5 = 750/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150 + 149 + 156 + 153)/5 = 750/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150 + 149 + 156 + 153)/5 = 750/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150 + 149 + 156 + 150)/5 = 750/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150)/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150)/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150)/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150)/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150)/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150)/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150)/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150)/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150)/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150)/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150)/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150)/5 = 150$  Mean,  $\bar{x} = (x1f1 + x2f2 + ... + 150$ xnfn/(f1 + f2 + ... + fn) Consider the following example 1: Find the mean of the following distribution: x 4 6 9 10 15 f 5 10 10 7 8 Solution: Calculation table for arithmetic mean: xi fi xifi 4 5 20 6 10 60 9 10 90 10 7 70 15 8 120  $\Sigma$  fi = 40  $\Sigma$  xi fi = 360 Mean,  $\bar{x} = (\Sigma xi fi)/(\Sigma fi) = 360/40 = 9$  Thus, Mean = 9 Example 2: Here is an example where the data is in the form of class intervals. The following table indicates the data on the number of patients visiting hospital in a day. Number of patients visiting hospital 0-10 2 10-20 6 20-30 9 30-40 7 40-50 4 50-60 2 Solution: In this case, we find the classmark (also called as mid-point of a class) for each class. Note: Class mark = (lower limit + upper limit)/2 Let x1, x2, x3, ..., xn be the class marks of the respective classes. Hence, we get the following table: Class marks of the respective classes. Hence, we get the following table: Class mark (xi) frequency (fi) xifi 5 2 10 15 6 90 25 9 225 35 7 245 45 4 180 55 2 110 Total  $\Sigma$  fi = 30  $\Sigma$  fixi = 860 Mean,  $\bar{x} = (\Sigma xifi)/(\Sigma fi) = 860/30 = 28.67$  $\bar{x} = 28.67$  Challenging Question: Let the mean of x1, x2, x3 ... xn be A, then what is the mean of: (x1 + k), (x2 + k), (x3 + k), ..., (xn + k) (x1 - k), (x2 - k), (x3 - k), ..., (xn + k) (x1 - k), (x2 - k), (x3 - k), ..., (xn + k) (x1 - k), (x2 - k), (x2 - k), (x3 - k), ..., (xn + k) example, consider the data: 4, 4, 6, 3, 2. Let's arrange this data in ascending or der: 2, 3, 4, 4, 6. There are 5 observations. Thus, median = middle value i.e. 4. Case 1: Ungrouped Data Step 1: Arrange the data in ascending or der: 2, 3, 4, 4, 6. There are 5 observations. Thus, median = middle value i.e. 4. odd. If n is odd, then use the formula: Median = (n + 1)/2th observation Example 1: Let's consider the data: 56, 67, 54, 34, 78, 43, 23. What is the median? Solution: Arranging in ascending order, we get: 23, 34, 43, 54, 56, 67, 78. Here, n (number of observations) = 7 So, (7 + 1)/2 = 4. Median = 4th observation Median = 54 If n is even, then use the formula: Median = [(n/2)th obs. + ((n/2) + 1)th obs.]/2 Example 2: Let's consider the data: 50, 67, 24, 34, 78, 43. What is the median? Solution: Arranging in ascending order, we get: 24, 34, 43, 50, 67, 78. Here, n (no.of observations) = 6 6/2 = 3 Using the median formula, Median = (3rd obs. + 4th obs.)/2 = (43 + 50)/2 Median = 46.5 Case 2: Grouped Data When the data is continuous and in the form of a frequency distribution, the median class. Let n = total number of observations i.e.  $\Sigma$  fi Note: Median Class is the class where (n/2) lies. Step 1: Find the median class. Let n = total number of observations i.e.  $\Sigma$  fi Note: Median Class is the class where (n/2) lies. Step 1: Find the median class. Let n = total number of observations i.e.  $\Sigma$  fi Note: Median Class is the class where (n/2) lies. Step 2: Use the following formula to find the median. where, l = lower limit of median class c = cumulative frequency of the class preceding the median class f = frequency of the median class fWe need to calculate the cumulative frequencies to find the median. Calculation table: Classes Number of students Cumulative frequency 0-10 2 2 10-20 12 2 + 12 = 14 20-30 22 14 + 22 = 36 30-40 8 36 + 8 = 44 40-50 6 44 + 6 = 50 N = 50 N/2 = 25 Median Class = (20 - 30) l = 20, f = 22, c = 14, h = 10 Using Median formula: Median = \(l + 22 = 36 30-40 8 36 + 8 = 44 40-50 6 44 + 6 = 50 N = 50 N/2 = 50/2 = 25 Median Class = (20 - 30) l = 20, f = 22, c = 14, h = 10 Using Median formula: Median = \(l + 22 = 36 30-40 8 36 + 8 = 44 40-50 6 44 + 6 = 50 N = 50 N/2 = 50/2 = 25 Median Class = (20 - 30) l = 20, f = 22, c = 14, h = 10 Using Median formula: Median = \(l + 22 = 36 30-40 8 36 + 8 = 44 40-50 6 44 + 6 = 50 N = 50 N/2 = 50/2 = 25 Median Class = (20 - 30) l = 20, f = 22, c = 14, h = 10 Using Median formula: Median = \(l + 22 = 36 30-40 8 36 + 8 = 44 40-50 6 44 + 6 = 50 N = 50 N/2 = 50/2 = 25 Median Class = (20 - 30) l = 20, f = 22, c = 14, h = 10 Using Median formula: Median = (1 + 22 + 36 30-40 8 36 + 8 = 44 40-50 6 44 + 6 = 50 N = 50 N/2 = 50/2 = 25 Median Class = (20 - 30) l = 20, f = 22, c = 14, h = 10 Using Median formula: Median = (1 + 22 + 36 30-40 8 36 + 8 = 44 40-50 6 44 + 6 = 50 N = 50 N/2 = 50/2 = 25 Median Class = (20 - 30) l = 20, f = 22, c = 14, h = 10 Using Median formula: Median = (1 + 22 + 36 30-40 8 36 + 8 = 44 40-50 6 44 + 6 = 50 N = 50 N/2 = 50/2 = 25 Median Class = (20 - 30) l = 20, f = 22, c = 14, h = 10 Using Median formula: Median = (1 + 22 + 36 30-40 8 36 + 8 = 44 40-50 6 44 + 6 = 50 N = 50 N/2 = 50/2 = 25 Median Class = (20 - 30) l = 20, f = 22, c = 14, h = 10 Using Median formula: Median = (1 + 22 + 36 30-40 8 36 + 8 = 44 40-50 6 44 + 6 = 50 N = 50 N/2 = 50/2 = 25 Median Class = (20 - 30) l = 20, f  $\frac{1}{2}-c}{f}$  we just need to identify the observation with the highest frequency is called a mode of data. Case 1: Ungrouped Data For ungrouped data, we just need to identify the observation which occurs maximum times. Mode = Observation with maximum frequency For example in the data: 6, 8, 9, 3, 4, 6, 7, 6, 3, the value 6 appears the most number of times. Thus, mode = 6. An easy way to remember mode is: Most Often Data Entered. Note: A data may have no mode, 1 mode, or more than 1 mode. Depending upon the number of modes the data has, it can be called unimodal, bimodal, trimodal, or multimodal. The example discussed above has only 1 mode, so it is unimodal. Case 2: Grouped Data When the data is continuous, the mode can be found using the following formula: Mode =  $(l + [dfrac {f m-f 1}{2f m-f 1}{2f$ Mode =  $(1 + [\dfrac {f m-f 1}{2}] \times 20 = 45 \therefore$  Mode = 45 Mean, Median and Mode Formulas and method to find the mean, median, and mode for grouped and ungrouped set of data. Let us summarize and recall them using the list of data. mean, median, and mode formulas given below, Mean formula for ungrouped data: Sum of all observations/Number of observations Mean formula for ungrouped data:  $\bar{x} = (x_1f_1 + x_2f_2 + ... + fn)$  Median formula for ungrouped data:  $\bar{x} = (x_1f_1 + x_2f_2 + ... + fn)$  Median formula for ungrouped data: If n is odd, then use the formula for ungrouped data: If n is odd, then use the formula for ungrouped data:  $\bar{x} = (x_1f_1 + x_2f_2 + ... + fn)$  Median formula for ungrouped data:  $\bar{x} = (x_1f_1 + x_2f_2 + ... + fn)$ Median = [(n/2)th obs. + ((n/2) + 1)th obs.]/2 Median formula for grouped data: Mode = Observation with loss f = frequency of the median class f = frequency of the median class f = frequency of the class preceding the median class f = frequency of the class preceding the median class f = frequency of the class f = frequency of the class f = frequency of the median class f = maximum frequency Mode formula for grouped data: Mode = \(l + [\dfrac {f m-f 1} {2f m-f 1 - f 2}]\times h\) where, l = lower limit of modal class, f1 = frequency of class succeeding modal class, f1 = frequency of class succeeding modal class, f1 = frequency of class succeeding modal class, f2 = frequency of class suc measures of central values i.e. mean, median, and mode are closely connected by the following relationship). 2Mean + Mode = 3Median For instance, if we are asked to calculate the mean, median, and mode of continuous grouped data, then we can calculate the mean and median using the formulas as discussed in the previous sections and then find mode using the empirical relation. For example, we have data whose mode = 65 and median = 61.6. Then, we can find the mean using the above mean, median, and mode relation. 2Mean =  $3 \times 61.6 - 65 \therefore 2Mean = 119.8 \Rightarrow$  Mean = 59.9 Difference Between Mean and Average The term average is frequently used in everyday life to denote a value that is typical for a group of quantities. Average rainfall in a month or the average age of employees of an organization is a typical example. We might read an article stating "People spend an average of 2 hours every day on social media." We understand from the use of the term average that not everyone is spending 2 hours a day on social media but some spend more time and some less. However, we can understand from the term average that 2 hours is a good indicator of the amount of time spent on social media per day. Most people use average and mean interchangeably even though they are not the same. Average is the value that indicates what is most likely to be expected. They help to summarise large data into a single value. An average tends to lie centrally with the values of the observations arranged in ascending order of magnitude. So, we call an average measure of the central tendency of the data. Averages are of different types. What we refer to as mean i.e. the arithmetic mean is one of the averages. Mean is called the mathematical average whereas median and mode are positional average whereas the median is known as the positional average. To understand the difference between the two, consider the following example. A department of an organization has 5 employees which include a supervisor and four executives. The executives draw a salary of ₹10,000 + 100000 + 100000 + 100000 + 100000 + 100000 + 100000 + 100000 + 100000 + 1000000 + 1the ascending order: 10000, 1 employees whereas the median salary represents the data more effectively. One of the weaknesses of mean is that it gets affected by extreme values. Look at the following graph to understand how extreme values. Look at the following graph to understand how extreme values. gives a better estimation. Here's a quick summary of the differences between the two. Mean Vs Median Me the middle value Values of data Every value is considered for calculation Every value is not considered Effect of extreme points Related Topics on Mean, Median, and Mode: Average Categorical Data Range in Statistics Geometric Mean Example 1: If the mean of the following data is 20.6, find the missing frequency (p). x 10 15 20 25 35 f 3 10 p 7 5 Solution: Let us make the calculation table for this : xi fi xifi 10 3 10 × 3 = 30 15 10 15 × 10 = 150 20 p 20 × p = 20p 25 7 25 × 7 = 175 35 5 35 × 5 = 175 Total:  $\Sigma$  fi = 25 + p  $\Sigma$  fixi = 530 + 20p Mean = ( $\Sigma$  fixi)/( $\Sigma$  fi) 20.6 = (530 + 20p)/(25 + p) 530 + 20p = 515 + 20.6p 15 = 175 Total:  $\Sigma$  fi = 25 + p  $\Sigma$  fixi = 530 + 20p Mean = ( $\Sigma$  fixi)/( $\Sigma$  fi) 20.6 = (530 + 20p)/(25 + p) 530 + 20p = 515 + 20.6p 15 = 175 Total:  $\Sigma$  fi = 25 + p  $\Sigma$  fixi = 530 + 20p Mean = ( $\Sigma$  fixi)/( $\Sigma$  fi) 20.6 = (530 + 20p)/(25 + p) 530 + 20p = 515 + 20.6p 15 = 175 Total:  $\Sigma$  fi = 25 + p  $\Sigma$  fixi = 530 + 20p Mean = ( $\Sigma$  fixi)/( $\Sigma$  fi) 20.6 = (530 + 20p)/(25 + p) 530 + 20p = 515 + 20.6p 15 = 175 Total:  $\Sigma$  fi = 25 + p  $\Sigma$  fixi = 530 + 20p Mean = ( $\Sigma$  fixi)/( $\Sigma$  fi) 20.6 = (530 + 20p)/(25 + p) 530 + 20p = 515 + 20.6p 15 = 175 Total:  $\Sigma$  fi = 25 + p  $\Sigma$  fixi = 530 + 20p Mean = ( $\Sigma$  fixi)/( $\Sigma$  fi) 20.6 = (530 + 20p)/(25 + p) 530 + 20p = 515 + 20.6p 15 = 175 Total:  $\Sigma$  fi = 25 + p  $\Sigma$  fixi = 530 + 20p Mean = ( $\Sigma$  fixi)/( $\Sigma$  fi) 20.6 = (530 + 20p)/(25 + p) 530 + 20p = 515 + 20.6p 15 = 175 Total:  $\Sigma$  fi = 25 + p  $\Sigma$  fixi = 530 + 20p Mean = ( $\Sigma$  fixi)/( $\Sigma$  fi) 20.6 = (530 + 20p)/(25 + p) 530 + 20p = 515 + 20.6p 15 = 175 Total:  $\Sigma$  fi = 25 + p  $\Sigma$  fixi = 530 + 20p Mean = ( $\Sigma$  fixi)/( $\Sigma$  fi) 20.6 = (530 + 20p)/(25 + p) 530 + 20p Mean = (\Sigma fixi)/( $\Sigma$  fi) 20.6 = (530 + 20p)/(25 + p) 530 + 20p Mean = (\Sigma fixi)/( $\Sigma$  fi) 20.6 = (530 + 20p)/(25 + p) 530 + 20p Mean = (\Sigma fixi)/( $\Sigma$  fi) 20.6 = (530 + 20p)/(25 + p) 530 + 20p Mean = (\Sigma fixi)/( $\Sigma$  fi) 20.6 = (530 + 20p)/(25 + p) 530 + 20p Mean = (\Sigma fixi)/( $\Sigma$  fi) 20.6 = (530 + 20p)/(25 + p) 530 + 20p Mean = (\Sigma fixi)/( $\Sigma$  fi) 20.6 = (530 + 20p)/(25 + p) 530 + 20p Mean = (\Sigma fixi)/( $\Sigma$  fi) 20.6 = (530 + 20p)/(25 + p) 530 + 20p Mean = (\Sigma fixi)/( $\Sigma$  fi) 20.6 = (530 + 20p)/(25 + p) 530 + 20p Mean = (\Sigma fixi)/( $\Sigma$  fi) 20.6 = (530 + 20p)/(25 + p) 530 + 20p Mean = (\Sigma fixi)/( $\Sigma$  fi) 20.6 = (\Sigma fixi)/( $\Sigma$  fi) 20.6 = (\Sigma fixi)/( $0.6p \ p = 15/0.6 = 25$   $\therefore$  The missing frequency (p) = 25 Example 2: The mean of 5 numbers is 18. If one number is excluded, their mean is 16. Find the excluded number is excluded number is  $x = 18 \ x = (\sum xi)/n \ xi = 5 \times 18 = 90$  Thus, the total of 5 numbers = 90 Let the excluded number is excluded number. Solution: Given,  $n = 5, \ x = 18 \ x = (\sum xi)/n \ xi = 5 \times 18 = 90$  Thus, the total of 5 numbers = 90 Let the excluded number is excluded number. numbers = (90 - a)/4 16 = (90 - a)/4 90 - a = 64 a = 26  $\Rightarrow$  The missing number is 26. Example 3: A survey on the heights (in cm) of 50 girls of class X was conducted at a school and the following data were obtained: Height (in cm) 120-130 130-140 140-150 150-160 160-170 Total Number of girls 2 8 12 20 8 50 Find the mode and median of the above data. Solution: Modal class = 150 - 160 [as it has maximum frequency] l = 150, h = 10, fm = 20, f1 = 12, f2 = 8 Mode =  $(l + [\dfrac \{f m-f 1\} \{2f m-f 1-f 2\}] (2 \times 20 - 12 - 8) \times 10 = 150 + 4 = 154 \therefore$  Mode = 154 To find the median, we need cumulative frequencies. Consider the table: Class Intervals No. of girls (fi) Cumulative frequency (c)  $120-130 \ 2 \ 2 \ 130-140 \ 8 \ 2 + 8 = 10 \ 140-150 \ 12 = f1 \ 10 + 12 = 22$  (c)  $150-160 \ 20 = fm \ 22 + 20 = 42 \ 160-170 \ 8 = f2 \ 42 + 8 = 50$  (n)  $n = 50 \Rightarrow n/2 = 25$   $\therefore$  Median class =  $(150 - 160) \ l = 150$ , c = 22, f = 20, h = 10 Median =  $l + [(n/2 - c)/f] \times h = 150 + [((50/2) - 22)/20] \times 10 = 150 + 1.5 = 151.5$   $\therefore$  Mode = 154, Median = 151.5 View Answer > go to slidego to slidego to slidego to slide Breakdown tough concepts through simple visualizations. Book a Free Trial Class FAQs on Mean, Median, mode are measures of central tendency or, in other words, different kinds of averages in statistics. Mean is the "middle" value in the list of numbers, while the numbers and then divide by the numbers, while the median is the "middle" value in the list of numbers. Mode is the value that occurs most often in the given set of data. What are Formulas to Find Mean, Median, and Mode? Different sets of formulas can be used to find mean, median, and mode depending upon the type of data: Mean = Sum of all observations/Number of observations. If n is odd, then use the formula: Median = (n + 1)/2th observation. If n is even, then use the formula: Median = [(n/2)th obs.+ ((n/2) + 1)th obs.]/2 Mode = Observation with maximum frequency How to Find Mean, Median and Mode for Grouped data using the below-given formulas, Mean,  $\bar{x} = (x1f1 + x2f2 + ... + xnfn)/(f1 + f2 + ... + fn)$  Median =  $(1 + [\dfrac {n}{2}-c]$  $f_{1,f} = h$  where, l = lower limit of median class f = frequency of the median class f = frequency of thf2 = frequency of class succeeding modal class, h = class width How to Find Mean Median and Mode? The mean, median, formula. Click here to check these formulas in detail and understand their applications. What Does Mean, Mode, and Median Represent? Mean, mode, and median are the three measures of central tendency in statistics. Mean represents the average value of the given set of data, while the median is the value of the middlemost observation obtained after arranging the data in ascending or descending or desce given data. On a bar chart, the mode is the highest bar. It is used with categorial data such as most sold T-shirts size. How to Find Median Using Mean the formula: Median = (n + 1)/2th observation. If n is even, then use the formula: Median = (n/2)th obs. + ((n/2) + 1)th obs.]/2 For grouped data, the median is obtained using the median are not the same. Mean is the average of the given sets of numbers. We need to add the numbers up then divide their sum by the number of observations. For finding the mode. If there are other numbers that repeat to the same level, there may be more than one mode. A set could be bimodal or trimodal. But the mean of a given data is unique. Median is the value of the middlemost observation, obtained after arranging the data in ascending order.

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