

## Chapter 1 : 3 Easy Ways to Solve Math Problems (with Pictures)

*The questions are mainly based on average or mean, weighted average and average speed. How to solve average word problems? To solve various problems we need to follow the uses of the formula for calculating arithmetic mean.*

If the average of 4 consecutive even numbers is 27, what is the largest of these numbers? Find the average temperature for a certain day if the temperatures recorded in a city are as follows: The average of five results is 46 and that of the first four is What will be the fifth result? What is the average of first multiple of 3? Suppose the average height of 30 boys out of a class of 50, is cm. If the average height of the remaining boys is cm, then determine the average height of the whole class. If the average of 2 numbers is M and one of them is N, What is the other number? His average in six subjects excluding Science is How many marks did he get in Science? The average of ten numbers is 7. If each number is multiplied by 12, then what will be the average of new set of number? In seven given numbers, the average of first four numbers is 4 and that of the last four numbers is also 4. If the average of these seven numbers is 3 then what is the fourth number? What is his average monthly income? If two numbers, 45 and 55 are discarded, what is the average of the remaining numbers? If the average of 1st 4 is 25 and that of last 3 is 25, then what is the fourth number? The average of 11 observations is If the average of first five observations is 58 and that of the last five is 56, what is the sixth observation? Suppose the average of the 30 students is 9 years. If the age of their teacher is included, it becomes 10 years. Determine the age of the teacher. The average salary per month of 30 employees is a china company is Tk. If the salary of the manager is added, the average salary increases to Tk. By the admission of a new girl, the average weight is reduced to What is the weight of the new girl? The average of three numbers is If two numbers are 16 and 22, then what is the third number?

**Chapter 2 : Math Practice Problems - Age Problems**

*Word Problems on Average* We will learn how to solve the word problems on average as we know we need to find average in many situations in our daily life. Let us solve some of the examples for the same.

The average of 52 numbers is Find the average of the first 97 natural numbers. Find the average of first ten whole numbers. Find the average of first 10 multiples of The average of 5 consecutive numbers is Then find height of these numbers. The highest of these numbers would be The average of ten numbers is If each number is multiplied by 12, then find the average of the new set of numbers. In a certain school, there are 60 boys of age 12 each, 40 of age 13 each, 50 of age 14 each and 50 of age 15 each. Find the average age in years of the students of the school. The average of 25 innings of a batsman is 40 and another 30 innings is What is the average of all the innings? The average of a batsman after 25 innings was 62 runs per innings. If after the 26th inning his average increased by 1 run, then what was his score in the 26th inning? The average marks of a group of 20 students on a test is reduced by 4 when the topper who scored 90 marks is replaced by a new student. The average of marks obtained by 77 candidates in a certain examination is If the average marks of failed candidates is 8 and passed candidates is 19 then find the number of passed candidates in examination? A batsman his 20th innings, missed a century by 5 runs and there by increased his average by 4. The average age of the three boys is 15 years. Their ages are in the ratio 3: Then find the age of the oldest boy. The average age of a group of men is increased by 5 years when a person aged 18 years is replaced by a new person of aged 38 years. How many men are there in the group? Here A person aged 18 years is replaced by new person of age 38 years. Now the new average increased by 5 years. The average of 71 results is If the average of the first 59 results is 46 and that of the last 11 results is Find the 60th result. If on Thursday it was exactly 39 oC , then find temperature on Monday. The average salary of the entire staff in a office is per day. The average salary of officers and that of non- officers is If the number of officers is 15, then find the number of non-officers in the office. What are the ages of groups A, B and C respectively? The average of 8 readings is If the sixth reading is 5 less than seventh and 7 less than eighth, what is the sixth reading? Out of three numbers, the first is twice the second and thrice the third. If their average is , find the numbers. The average of the first 7 papers is 75 and last seven papers is Find the marks obtained in the 7th paper. Find his average speed during the whole journey. Find the average speed for the whole journey. Then find average speed in covering the whole distance.

**Chapter 3 : Math Practice Problems - Batting Averages**

*Another type of average problem involves the weighted average - which is the average of two or more terms that do not all have the same number of members. To find the weighted term, multiply each term by its weighting factor, which is the number of times each term occurs.*

There are three main types of average problems commonly encountered in school algebra: In this lesson, we will learn how to solve weighted average problems. The following table gives the formulas for average problems: Weighted Average, Mean, and Average Speed. Scroll down the page for examples and solutions.

**Weighted Average Problems** One type of average problems involves the weighted average - which is the average of two or more terms that do not all have the same number of members. To find the weighted term, multiply each term by its weighting factor, which is the number of times each term occurs. The formula for weighted average is:

A class of 25 students took a science test. The other students had an average score of 75. What is the average score of the whole class? To get the sum of weighted terms, multiply each average by the number of students that had that average and then sum them up. Using the formula Answer: The average score of the whole class is 78. You will get the wrong answer if you add the two average scores and divide the answer by two.

**Example of how to calculate the weighted average** Example: If the average age of the men is 30 and the average age of the women is 40, what is the average age of all the members? How to find the weighted average given a frequency table? A group of people were surveyed for how many movies they see in a week. The table below shows the result of the survey. How to solve Weighted Averages and Mixture Problems?

**Mixture problems** are problems in which two or more parts are combined into a whole. How many pounds of Premium coffee beans should be mixed with two pounds of Supreme coffee to make Blend coffee? How to solve Weighted Average Word Problems? The car is traveling at a speed of 30 mph or 44 feet per second. The emergency vehicle is traveling at a speed of 50 mph or about 74 feet per second. If the vehicles are feet apart and the conditions are ideal, in how many seconds will the driver of the car first hear the siren? Show Step-by-step Solutions

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**Chapter 4 : Mathway | Algebra Problem Solver**

*In Exercise - I given basic concepts of average chapter with formulas like Weighted Average, Average age /weight, Average Speed.. etc. In Exercise - II Covered average of numbers formulas like average of natural, even, odd, squares of natural, squares of even, cubes of even numbers etc.*

Login Average word problems These average word problems are based on the arithmetic mean usually called average or mean. To get the average, use the formula for average you see here Problem 1: A student scores 85, 90, 80, 90, and on 5 quizzes. What is the average score on these 5 quizzes? The number of hours Noemy worked this week for the past 5 days is 8, 6, 5, 9, 8. Mark works 3 jobs to make ends meet. More challenging average word problems Problem 4: The average age of a husband and a wife is The average of three numbers is 6. When one number is removed from the list, the average is 5. What is the number that was removed from the list? A math student scored 75, 70, 85, 90, on the first five tests he took. After he took his sixth math test, the average is now What did he score on the sixth test? The average time a man spent watching TV daily for the past week is 4 hours. If we remove one of these days, the average time he spent watching TV is now 3. How many hours of TV time did the man have on the day we removed? The average of four numbers is 6. When one number is added to the list, the average is again 6. What number what added to the list? The average daily sales generated by a store for the past 20 days is What is the total amount of sales generated by the store for the past twenty days? The average of two numbers is 5. One of the two numbers is four times as big as the other. What are these two numbers? The recorded temperatures in a country during a period of 4 days was 29 degrees Celsius, 28 degrees Celsius, 25 degrees Celsius, and 26 degrees Celsius. Which country had an average temperature that was colder?

**Chapter 5 : Average speed word problems worksheet with answers**

*Detailed solutions and full explanations to grade 8 math word problems are presented. A car traveled miles in 4 hours 41 minutes. What was the average speed of the car in miles per hour?*

Problems Based on Average Here we will learn to solve the three important types of word problems based on average. The questions are mainly based on average or mean, weighted average and average speed. How to solve average word problems? To solve various problems we need to follow the uses of the formula for calculating arithmetic mean. The mean weight of a group of seven boys is 56 kg. The individual weights in kg of six of them are 52, 57, 55, 60, 59 and Find the weight of the seventh boy. Hence, the weight of the seventh boy is 54 kg. A cricketer has a mean score of 58 runs in nine innings. Find out how many runs are to be scored by him in the tenth innings to raise the mean score to The mean of five numbers is If one of the numbers is excluded, the mean gets reduced by 2. Find the excluded number. The mean weight of a class of 35 students is 45 kg. If the weight of the teacher be included, the mean weight increases by g. Find the weight of the teacher. Hence, the weight of the teacher is 63 kg. The average height of 30 boys was calculated to be cm. It was detected later that one value of cm was wrongly copied as cm for the computation of the mean. Find the correct mean. Hence, the correct mean height is cm. The mean of 16 items was found to be On rechecking, it was found that two items were wrongly taken as 22 and 18 instead of 32 and 28 respectively. Hence, the correct mean is The mean of 25 observations is If the mean of the first observations is 32 and that of the last 13 observations is 39, find the 13th observation. Hence, the 13th observation is

Chapter 6 : Average rate of change word problems (practice) | Khan Academy

*Problem #8: The average of four numbers is 6. When one number is added to the list, the average is again 6. What number was added to the list? Problem #9: The average daily sales generated by a store for the past 20 days is \$100. What is the total amount of sales generated by the store for the past twenty days? Problem #10: The average of two numbers is 5. One of the two numbers is four times as big as the other.*

Since it will be tedious to count all the ages, we can find  $n$  by adding up the frequencies: Next we need to find the sum of all the ages. We can do this in two ways: Since we know that the frequency represents how many of that particular age there are, we can just multiply each age by its frequency, and then add up all these products. The last step is to find the mean by dividing the sum by  $n$ .

**Population Mean vs Sample Mean** In the Introduction to Statistics section, we defined a population and a sample whereby a sample is a part of a population. In statistics there are two kinds of means: A population mean is the true mean of the entire population of the data set while a sample mean is the mean of a small sample of the population. These different means appear frequently in both statistics and probability and should not be confused with each other. The total number of elements in a population is represented by  $N$  while the number of elements in a sample is represented by  $n$ . This leads to an adjustment in the formula we gave above for calculating the mean. The sample mean is commonly used to estimate the population mean when the population mean is unknown. This is because they have the same expected value.

**Median** The median is defined as the number in the middle of a given set of numbers arranged in order of increasing magnitude. When given a set of numbers, the median is the number positioned in the exact middle of the list when you arrange the numbers from the lowest to the highest. The median is also a measure of average. In higher level statistics, median is used as a measure of dispersion. The median is important because it describes the behavior of the entire set of numbers.

**Example 3** Find the median in the set of numbers given below  
**Solution** From the definition of median, we should be able to tell that the first step is to rearrange the given set of numbers in order of increasing magnitude, i.e. Lets try another example to emphasize something interesting that often occurs when solving for the median.

**Example 4** Find the median of the given data  
**Solution** As in the previous example, we start off by rearranging the data in order from the smallest to the largest. Next we inspect the data to find the number that lies in the exact middle. We can see from the above that we end up with two numbers 4 and 5 in the middle. We can solve for the median by finding the mean of these two numbers as follows:

**Mode** The mode is defined as the element that appears most frequently in a given set of elements. Using the definition of frequency given above, mode can also be defined as the element with the largest frequency in a given data set. For a given data set, there can be more than one mode. As long as those elements all have the same frequency and that frequency is the highest, they are all the modal elements of the data set.

**Example 5** Find the Mode of the following data set.  
We have defined mode as the element which has the highest frequency in a given data set. In grouped data, we can find two kinds of mode:

**Chapter 7 : Problems Based on Average | Word Problems | Calculating Arithmetic Mean**

*Math Word Problems and Solutions - Distance, Speed, Time. Problem 1 A salesman sold twice as much pears in the afternoon than in the morning. If he sold kilograms of pears that day, how many kilograms did he sell in the morning and how many in the afternoon?*

**Average Word Problems** There are three main types of algebra average word problems commonly encountered in school or in tests like the SAT: **More Algebra Word Problems** The following table shows three formulas used in average problems: Scroll down the page for examples and solutions. **Average Arithmetic Mean** The average arithmetic mean uses the formula: The formula can also be written as Example: The average arithmetic mean of a list of 6 numbers is If we remove one of the numbers, the average of the remaining numbers is What is the number that was removed? The removed number could be obtained by difference between the sum of original 6 numbers and the sum of remaining 5 numbers i. The number removed is On the next 5 tests his average score was What was his average score on all 9 tests? After taking 3 quizzes, your average is 72 out of What must your average be on the 5 quizzes to increase your average to 77? **How to solve algebra average problem? Show Step-by-step Solutions** Example: **Show Step-by-step Solutions Weighted Average** Another type of average problem involves the weighted average - which is the average of two or more terms that do not all have the same number of members. To find the weighted term, multiply each term by its weighting factor, which is the number of times each term occurs. The formula for weighted average is: A class of 25 students took a science test. The other students had an average score of What is the average score of the whole class? To get the sum of weighted terms, multiply each average by the number of students that had that average and then sum them up. Using the formula Answer: The average score of the whole class is You will get the wrong answer if you add the two average scores and divide the answer by two. **How to calculate a weighted mean weighted average?** Fifteen accounting majors have an average grade of Seven marketing majors averaged 85, and ten finance majors averaged What is the weighted mean for the 32 students?

**Chapter 8 : Definition of Average**

*Here is a set of practice problems to accompany the Average Function Value section of the Applications of Integrals chapter of the notes for Paul Dawkins Calculus I course at Lamar University.*

Detailed solutions and full explanations to grade 8 math word problems are presented. A car traveled miles in 4 hours 41 minutes. What was the average speed of the car in miles per hour? If the area is  $m^2$  what is the length of the rectangle? Solution Let  $L$  be the length and  $W$  be the width of the rectangle. What is the probability that the number rolled is an even number greater than 2? Solution Out of the 6 possible numbers that may be rolled, 3 are even: What are the coordinates of its image point if it is translated 2 units up and 5 units to the left, and reflected in the  $x$  axis? Solution A translation of 2 units up will increase the  $y$  coordinate by 2 units and a translation by 5 units to the left will decrease the  $x$  coordinate by 5. If the area of the new rectangle is equal to square meters, what is the area of the original rectangle? If the new cube has a volume of 64, cubic centimeters, what is the area of one face of the original cube? Solution Let  $x$  be the length of the edge of the original cube. Pump B can fill the same tank in 8 hours. How long does it take the two pumps working together to fill the tank? Find the rate at which the height of the water in the water tank increases. Express your answer in centimeters per minute. The total number of cards is  $20 - x$ . Substitute  $y$  by  $20 - x$  in the second equation and solve for  $x$ . Which of the graphs below best represent the changes in the height of water in the tank as a function of the time? Solution When water is pumped into a tank, the height of the water will increase. The graph in the top right side shows a decreasing height and the graph at the bottom right shows a constant height and cannot therefore represent the height as a function of time. The graph at the top left is not the graph of a function. The only graph that may represent the height of the water in the tank being filled is the graph in the bottom left which shows an increasing height. Initially the rectangular prism on the left was full of water. Then water was poured in the right cylindrical container so that the heights of water in both containers are equal. Find the height  $h$  of water in both containers.



**Chapter 9 : Average problems with solutions |Average Tricks with Examples|Exercise-3**

*Weighted Average Problems* One type of average problems involves the weighted average - which is the average of two or more terms that do not all have the same number of members. To find the weighted term, multiply each term by its weighting factor, which is the number of times each term occurs.

MathScore EduFighter is one of the best math games on the Internet today. You can start playing for free! References to complexity and mode refer to the overall difficulty of the problems as they appear in the main program. In the main program, all problems are automatically graded and the difficulty adapts dynamically based on performance. Answers to these sample questions appear at the bottom of the page. This page does not grade your responses. See some of our other supported math practice problems. Maria is 12 years old. The sum of the ages of Maria and John is How old is John? Mary is 11 years old. The sum of the ages of Mary and Tiffany is How old is Tiffany? Solve the following age problems. The current sum of the ages of Maria and Mary is How old is Mary right now? The current sum of the ages of Sharon and Peter is How old is Peter right now? In 13 years, the sum of the ages of Jose and Pearl will be How old is Pearl right now? In 13 years, the sum of the ages of Cindy and Miguel will be How old is Miguel right now? The current sum of the ages of Cindy and Paul is How old is Paul right now? The current sum of the ages of Miguel and Mary is In 15 years, the sum of the ages of Mary and Cindy will be How old is Cindy right now? The current sum of the ages of Sharon and Tiffany is How old is Tiffany right now? Answers Solve the following age problems.