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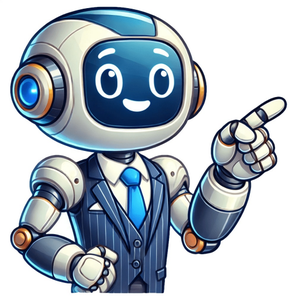

Maths word problems

Welcome to the math word problems worksheets page at Math-Drills.com! On this page, you will find Math word and story problems worksheets with single- and multi-step solutions on a variety of math topics including addition, multiplication, subtraction, division and other math topics. It is usually a good idea to ensure students already have a strategy or two in place to complete the math operations involved in a particular question. For example, students may need a way to figure out what 7 × 8 is or have previously memorized the answer before you give them a word problem that involves finding the answer to 7 × 8. There are a number of strategies used in solving math word problems; if you don't have a favorite, try the Math-Drills.com problem-solving strategy: Question: Understand what the question is asking. What operation or operations do you need to use to solve this question? Ask for help to understand the question if you can't do it on your own. Estimate: Use an estimation strategy, so you can check your answer for reasonableness in the evaluate step. Try underestimating and overestimating, so you know what range the answer is supposed to be in. Be flexible in rounding numbers if it will make your estimate easier. Strategize: Choose a strategy to solve the problem. Will you use mental math, manipulatives, or pencil and paper? Use a strategy that works for you. Save the calculator until the evaluate stage. Calculate: Use your strategy to solve the problem. Evaluate: Compare your answer to your estimate. If you under and overestimated, is the answer in the correct range. If you rounded up or down, does the answer make sense (e.g. is it a little less or a little more than the estimate). Also check with a calculator. Interactive games and worksheets to teach the skills required to answer word problems in a variety of real life contexts. Solving word problems at KS1 and KS2 is an essential part of the new maths curriculum. Here you can find expert guidance on how to solve maths word problems as well as examples of the many different types of word problems primary school children will encounter with links to hundreds more. A word problem in maths is a maths question written as one sentence or more that requires children to apply their maths knowledge to a 'real-life' scenario. This means that children must be familiar with the vocabulary associated with the mathematical symbols they are used to, in order to make sense of the word problem. For example: The National Curriculum states that its mathematics curriculum "aims to ensure that all pupils: become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately; reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language; can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions." The National Centre for Excellence in the Teaching of Mathematics (NCETM) have defined "teaching for mastery", with some aspects of this definition being: Maths teaching for mastery rejects the idea that a large proportion of people 'just can't do maths'. All pupils are encouraged by the belief that by working hard at maths they can succeed. Procedural fluency and conceptual understanding are developed in tandem because each supports the development of the other. Significant time is spent developing deep knowledge of the key ideas that are needed to underpin future learning. The structure and connections within the mathematics are emphasised, so that pupils develop deep learning that can be sustained. (The Essence of Maths Teaching for Mastery, 2016) Year 3 to 6 Rapid Reasoning Worksheet for Weeks 1-6 Download for FREE 6 weeks of Rapid Reasoning worksheets. That include six weeks of daily reasoning and problem-solving questions for years 3, 4, 5 and 6! Download Free Now! One of NCETM's Five Big Ideas in Teaching for Mastery (2017) is "Mathematical Thinking: if taught ideas are to be understood deeply, they must not merely be passively received but must be worked on by the student: thought about, reasoned with and discussed with others". In other words – yes, fluency in arithmetic is important; however, with this often lies the common misconception that once a child has learnt the number skills appropriate to their level/age, they should be progressed to the next level/age of number skills. The mastery approach encourages exploring the breadth and depth of these concepts (once fluency is secure) through reasoning and problem solving. Year 6 objective Fluency Reasoning Problem solving Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. 7,208 females attended a concert as well as 8,963 males. There were originally 20,000 seats on sale. How many empty seats were there at the concert? Abdul says, "If I add any two 4-digit numbers together, it will make a 5-digit number." Do you agree? Explain why. Three pandas are eating bamboo sticks. There are 51 altogether. They all eat an odd number of sticks. How many bamboo sticks did they each eat? How many different ways can you do it? What sort of word problems might my child encounter at school? In Key Stage 2, there are nine 'strands' of maths – these are then further split into 'sub-strands'. For example, 'number and place value' is the first strand: a Year 3 sub-strand of this is to "find 10 or 100 more or less than a given number"; a Year 6 sub-strand of this is to "determine the value of each digit in numbers up to 10 million". The table below shows how the 'sub-strands' are distributed across each strand and year group in KS2. Strand Year 3 Year 4 Year 5 Year 6 Total Number and place value 6 9 7 5 27 Calculations 7 8 15 9 39 Fractions, decimals and percentages 7 10 12 11 40 Ratio and proportion 0 0 0 4 4 Algebra 0 0 0 5 5 Measurement 17 9 10 8 44 Geometry: properties of shape 5 4 6 7 22 Geometry: position and direction 0 3 1 2 6 Statistics 2 2 2 2 8 Meet Skye, the voice-based AI tutor making maths success possible for every student. Built by maths experts, Skye uses the same pedagogy, curriculum and lesson structure as our traditional tutoring. But, with more flexibility and a lower cost, schools can scale AI maths tutoring to support every student who needs it. Watch Skye in action Here are two simple strategies that can be applied to many word problems before solving them. What do you already know? How can this problem be drawn/represented pictorially? Let's see how this can be applied to a word problem to help achieve the answer. There are 28 pupils in a class.The teacher has 8 litres of orange juice.She pours 225 millilitres of orange juice for every pupil.How much orange juice is left over? 1. What do you already know? There are 1,000ml in 1 litre Pours = liquid leaving the bottle = subtraction For every = multiply Left over = requires subtraction at some point 2. How can this problem be drawn/represented pictorially? The bar model is always a brilliant way of representing problems, but if you are not familiar with this, there are always other ways of drawing it out. Read more: What is a bar model For example, for this question, you could draw 28 pupils (or stick man x 28) with '225 ml' above each one and then a half-empty bottle with '8 litres' marked at the top. Now to put the maths to work. This is a Year 6 multi-step problem, so we need to use what we already know and what we've drawn to break down the steps. Mara is in a bookshop. She buys one book for £6.99 and another that costs £3.40 more than the first book. She pays using a £20 notes. What change does Mara get? 1. What do you already know? More than = add Using decimals means I will have to line up the decimal points correctly in calculations Change from money = subtract 2. How can this problem be drawn/represented pictorially? See this example of bar modelling for this question: Now to put the maths to work using what we already know and what we've drawn to break down the steps. Mara is in a bookshop. She buys one book for £6.99 and another that costs £3.40 more than the first book. 1) £6.99 + (£6.99 + £3.40) = £17.38 She pays using a £20 note. What change does Mara get? 2) £20 – £17.38 = £2.62 The more children learn about maths as the go through primary school, the trickier the word problems they face will become. Below you will find some information about the types of word problems your child will be coming up against on a year by year basis, and how word problems apply to each primary year group Throughout Year 1 a child is likely to be introduced to word problems with the help of concrete resources (pieces of physical apparatus like coins, cards, counters or number lines) to help them understand the problem. An example of a word problem for Year 1 would be: Chris is going to buy a cake for his mum which costs 80p. How many 20p coins would he need to do this? Year 2 is a continuation of Year 1 when it comes to word problems, with children still using concrete maths resources to help them understand and visualise the problems they are working on An example of a word problem for Year 2 would be: A class of 10 children each have 5 pencils in their pencil cases. How many pencils are there in total? With word problems for year 3, children will move away from using concrete resources when solving word problems, and move towards using written methods. Teachers will begin to demonstrate the four operations such as addition and subtraction word problems, multiplication and division problems too. This is also the year in which 2-step word problems will be introduced. This is a problem which requires two individual calculations to be completed. Word problems worksheet Year 3 Shaun is making 3-D shapes out of plastic straws. At the vertices where the straws meet, he uses blobs of modelling clay to fix them together Here are some of the shapes he makes: Shape Number of straws Number of blobs of modelling clay A 8 5 B 12 8 C 6 4 One of Sean's shapes is a cuboid. Which is it? Explain your answer. Answer: shape B as a cuboid has 12 edges (straws) and 8 vertices (clay) Year 3 are collecting pebbles. This pictogram shows the different numbers of pebbles each group finds. Answer: a) 9 b) 3 pebbles drawn Top tipBy the time children are in Year 3 many of the word problems, even one-step story problems tend to be a variation on a multiplication problem. For this reason learning times tables becomes increasingly essential at this stage. One of the best things you can do to help with Year 3 maths at home is support your child to do this. You can also help children while they are developing this skill by providing 100 squares to help them solve these word problems. At this stage of their primary school career, children should feel confident using the written method for each of the four operations. Word problems for year 4 will include a variety of problems, including 2-step problems and be children will be expected to work out the appropriate method required to solve each one. My number has four digits and has a 7 in the hundreds place.The digit which has the highest value in my number is 2.The digit which has the lowest value in my number is 6.My number has 3 fewer tens than hundreds.What is my number? Answer: 2,746 One and 2-step word problems continue with word problems for year 5, but this is also the year that children will be introduced to word problems containing decimals. These are some examples of Year 5 maths word problems. Word problems worksheet Year 5 Stan, Frank and Norm are washing their cars outside their houses.Stan has washed 0.5 of his car.Frank has washed 1/5 of his car.Norm has washed 5% of his car. Who has washed the most? Explain your answer. Answer: Stan (he has washed 0.5 whereas Frank has only washed 0.2 and Norm 0.05) Word problems for year 6 shift from 2-step word problems to multi-step word problems. These will include fractions, decimals, percentages and time word problems. Here are some examples of the types of maths word problems Year 6 will have to solve. This question is from the 2018 key stage 2 SATs paper. It is worth 1 mark. The Angel of the North is a large statue in England. It is 20 metres tall and 54 metres wide. Ally makes a scale model of the Angel of the North. Her model is 40 centimetres tall. How wide is her model? Answer: 108cm This question is from the 2018 KS2 SATs paper. It is worth 2 marks as there are 2 parts to the answer. Amina is making designs with two different shapes. She gives each shape a value. Calculate the value of each shape. Answer: 36 (hexagon) and 25. This question is from the 2018 KS2 SATs paper. It is worth 3 marks as it is a multi-step problem. There are 28 pupils in a class.The teacher has 8 litres of orange juice.She pours 225 millilitres of orange juice for every pupil.How much orange juice is left over? Answer: 1.7 litres or 1,700ml The following examples give you an idea of the kinds of maths word problems your child will encounter for each of the 9 strands of maths in KS2. This machine subtracts one hundredth each time the button is pressed. The starting number is 8.43. What number will the machine show if the button is pressed six times? Answer: 8.37 Download free number and place value word problems for Years 3, 4, 5 and 6 In Year 3 pupils will solve addition word problems and subtraction word problems with 2 and 3 digits. Sam has 364 sweets. He gets given 142 more. He then gives 277 away. How many sweets is he left with? Answer: 229 Download free addition and subtraction word problems for Years 3, 4, 5 and 6 Alfie thinks of a number. He subtracts 70. His new number is 12. What was the number Alfie thought of? Answer: 82 The temperature at 7pm was 4oC. By midnight, it had dropped by 9 degrees. What was the temperature at midnight? Answer: -5oC More here: 25 addition and subtraction word problems A baker is baking chocolate cupcakes. She melts 16 chocolate buttons to make the icing for 9 cakes. How many chocolate buttons will she need to melt to make the icing for 18 cakes? Answer: 32 Eggs are sold in boxes of 12. The egg boxes are delivered to stores in crates. Each crate holds 9 boxes. How many eggs are in a crate? Answer: 108 Download free multiplication word problems for Years 3, 4, 5 and 6 A factory produces 1,692 paintbrushes every day. They are packaged into boxes of 9. How many boxes does the factory produce every day? Answer: 188 Download our free division word problems worksheets for Years 3, 4, 5 and 6. More here: 20 multiplication word problemsMore here: 25 division word problems Free resource: Use these four operations word problems to practise addition, subtraction, multiplication and division all together. At the end of every day, a chocolate factory has 1 and 2/6 boxes of chocolates left over. How many boxes of chocolates are left over by the end of a week? Answer: 9 and 2/6 or 9 and 1/3 Download free fractions and decimals word problems worksheets for Years 3, 4, 5 and 6 More here: 28 fraction word problems Which two decimals that have a difference of 0.5? 0.2, 0.25, 0.4, 0.45, 0.6, 0.75. Answer: 0.25 and 0.75 Download free decimals and percentages word problems resources for Years 3, 4, 5 and 6 There are 350 children in a school. 50% are boys. How many boys are there? Answer: 175 Lucy and Ffion both have bottles of strawberry smoothie. Each bottle contains 1 litre. Lucy drinks ½ of her bottle. Ffion drinks 300ml of her bottle. How much does each person have left in both bottles? Answer: Lucy = 500ml, Ffion = 300ml More here: 25 percentage word problems James and Lauren have different amounts of money. James has twelve 2p coins. Lauren has seven 5p coins. Who has the most money and by how much? Answer: Lauren by 11p. More here: 25 money word problems A rectangle measures 6cm by 5cm. What is its area? Answer: 30cm2 The swimming pool at the Sunshine Inn hotel is 20m long and 7m wide. Mary swims around the edge of the pool twice. How many metres has she swum? Answer: 108m A local council has spent the day painting double yellow lines. They use 1 pot of yellow paint for every 100m of road they paint. How many pots of paint will they need to paint a 2km stretch of road? Answer: 20 pots More here: 24 ratio word problems Draw a pair of brackets in one of these calculations so that they make two different answers. What are the answers? 50 – 10 × 5 = 50 – 10 × 5 = This large cuboid has been made by stacking shipping containers on a boat. Each individual shipping container has a length of 6m, a width of 4m and a height of 3m. What is the volume of the large cuboid? Answer: 864m3 In the KS1 SATs, 58% (35/60 marks) of the test is comprised of maths 'reasoning' (word problems). In KS2, this increases to 64% (70/110 marks) spread over two reasoning papers, each worth 35 marks. Considering children have, in the past, needed approximately 55-60% to reach the 'expected standard', it's clear that children need regular exposure to and a solid understanding of how to solve a variety of word problems. Children have the opportunity to practice SATs style word problems in Third Space Learning's online one-to-one SATs revision programme. Personalised to meet the needs of each student, our programme helps to fill gaps and give students more confidence going in to the SATs exams. Example of a word problem from Third Space Learning's online SATs revision programme. It can be easy for children to get overwhelmed when they first come across word problems in KS2, but it is important that you remind them that whilst the context of the problem may be presented in a different way, the maths behind it remains the same. Word problems are a good way to bring maths into the real world and make maths more relevant for your child, so help them practise, or even ask them to turn the tables and make up some word problems for you to solve. This article while written by a teacher for teachers is also suitable for those at home supporting children with home learning. More free home learning resources are also available. Read, explore, and solve over 1000 math word problems based on addition, subtraction, multiplication, division, fraction, decimal, ratio and more. These word problems help children hone their reading and analytical skills; understand the real-life application of math operations and other math topics. Print our exclusive colorful theme-based worksheets for a fun-filled teaching experience! Use the answer key provided below each worksheet to assist children in verifying their solutions. Sample Worksheets Our word problems worksheets are best attempted after a student is familiar with the underlying skill. We include many mixed word problems or word problems with irrelevant data so that students must think about the problem carefully rather than just apply a formulaic solution. Kindergarten: Addition word problems Subtraction word problems Grade 1 word problems Grade 2 word problems Grade 3 word problems Grade 4 word problems Grade 5 word problems Topics include: Simple word problems with 1-digit addition Simple word problems with 1-digit subtraction Single digit addition word problems Addition with sums 50 or less Adding 3 or more numbers Subtracting 1-digit numbers Subtracting numbers under 50 Mixed addition & subtraction Time and elapsed time Counting money word problems Measurement word problems (lengths) Writing fractions from a story Mixed word problems 1,2 and 3-digit addition word problems 1,2 and 3-digit subtraction Mixed addition and subtraction Multiplication within 25 Lengths - adding / subtracting / comparing (customary and metric) Time and elapsed time (1/2 hour intervals) Time and elapsed time (5 minute intervals) Counting money (coins and bills) Writing fractions word problems Comparing fractions Simple addition word problems (numbers under 100) Addition in columns (numbers under 1,000) Mental subtraction Subtraction in columns (2-3 digits) Mixed addition and subtraction Simple multiplication (1-digit by 1 or 2-digit) Multiplying multiples of 10 Multiplication in columns Simple division Long division with remainders (numbers 1-100) Mixed multiplication and division word problems Identifying, comparing and simplifying fractions Adding and subtracting fractions (like denominators) Length word problems Time word problems (nearest 1 minute) Mass and weight word problems Volume and capacity word problems Word problems with variables Mixed word problems Four operations (addition, subtraction, multiplication, division) Estimating and rounding Writing and comparing fractions Adding and subtracting fractions (like denominators) Multiplying fractions by whole numbers Adding and subtracting decimals (up to 3 terms) Length word problems (customary and metric units) Mass and weight word problems Volume and capacity word problems Time word problems (including am vs pm) Money word problems (with decimal notation) Shopping word problems Mixed word problems Mixed 4 operations (addition, subtraction, multiplication, division) Estimating and rounding word problems (based on the 4 operations) Add and subtract fractions and mixed numbers (like and unlike denominators) Multiplying and dividing fractions Mixed operations with fractions (add, subtract, multiply, divide) Decimals word problems (add, subtract, multiply) Length word problems (customary and metric units) Mass and weight word problems (oz, lbs / gm, kg) Volume and capacity word problems Variables and expressions word problems Variables and equations word problems Volume of rectangular prism GCF / LCM word problems Mixed word problems Fractions worksheets Geometry worksheets Grade 1 Grade 2 Grade 3 Grade 4 Grade 5 Grade 6 2 Stars 3 Stars Addition and Subtraction Multiplication and Division Percentages, Fractions and Proportions Practice All Together Start Practicing Practicing word problems at your own level is essential for building a solid foundation in mathematics. Every student has a unique set of strengths and weaknesses when it comes to math. Therefore, it is necessary to practice at a level appropriate for you to develop confidence and skills. When students are forced to work on math problems that are too challenging or too easy for them, they become disengaged, frustrated, and lose interest in the subject. Practicing math at your own level ensures that you are working on word problems that are challenging enough to keep you engaged and interested while still being achievable. We offer a wide variety of word problems categorized by topic, making it easy for students to practice specific categories of problems. Practicing a specific category of word problems, such as addition word problems, allows students to develop a deep understanding of the concepts involved. By working on a series of addition problems, students can master the addition process and become more confident in their abilities. For example, if a student struggles with multiplication word problems, practicing a series of these problems can help them identify their weaknesses and improve them. It is also possible to practice all types of word problems mixed together. Word problems can be challenging for many children because they require strong reading and comprehension skills, the ability to apply multiple mathematical operations, and an understanding of abstract or unfamiliar concepts. However, with practice and effective teaching strategies, children can develop the skills and confidence to solve word problems successfully. Practicing word problems can help children become more familiar with the language and structure of these types of problems, which can increase their confidence when facing similar problems in the future. In addition, practicing word problems can help children become more confident and prepared for important test moments. We understand the importance of practicing math word problems to help students improve their problem-solving skills. That's why we offer a comprehensive database of thousands of unique word problems designed to challenge and engage students at all levels. One of the advantages of using MathWordProblems.com is that students can continue to practice and refine their skills without worrying about repeating the same problems. With such a vast selection of word problems in our database, students will unlikely encounter the same problem twice. This ensures they are constantly challenged and pushed to develop their critical thinking and problem-solving abilities. At MathWordProblems.com, we understand that math practice can sometimes be repetitive and dull. That's why we've included fun and educational math games for students to play after they complete their word problems. These games are designed to help students develop their math skills while having fun at the same time. Our math games focus on automating specific math skills like addition and multiplication. For example, our games may ask students to solve addition problems up to 20 or practice their times tables. Math automation involves the ability to recall math facts quickly and accurately without having to rely on counting or other strategies. This skill is crucial for building a solid foundation in math and for students to progress to more advanced math concepts. We are committed to making high-quality math education accessible to everyone. That's why we offer free educational materials, such as worksheets and classroom activities. Our worksheets are designed to be engaging and interactive, with a range of math problems and activities suitable for various ages and skill levels. In addition to our worksheets, we offer classroom activities that incorporate movement and physical activity into the learning process. If you want to stay up-to-date with the latest math educational materials, follow us on Facebook. We look forward to connecting with you!