Click to prove you're human

Are you in need of some Pythagorean Theorem worksheets to help you practice and learn one of the most famous math theorems ever known?Learning how to correctly use the Pythagorean Theorem, which states that, for any right triangle with sides a, b, and c (where a and b are the legs and c is the hypotenuse), the following equation is always true: a + b = c.The Pythagorean Theorem has been around for thousands of years and it remains as one of the most fascinating and well-known math theorems of all time. Learning how to use the Pythagorean Theorem to solve problems involving right triangles is a skill that every math student can learn with some consistent practice. And one of the best ways to consistently practice using the Pythagorean Theorem to solve right triangle problems is by working on a Pythagorean Theorem Worksheet or two assess your understanding and to keep your skills sharp!If you are looking for effective Pythagorean Theorem Worksheets (that include both triangle diagram problems and word problems), then youre in the right place! The next section of this page shares a free library of Pythagorean Theorem Worksheet PDF files that include a variety of practice problems as well as complete answer keys on the second page. These free worksheets will give you tons of practice opportunities to use the Pythagorean Theorem (a + b = c) to solve a variety of right triangle problems (including word problems).Every single Pythagorean Theorem worksheet pdf file is easy to download to your computer and/or print (with or without the answer key). You can download any of the worksheets in the free library below simply by clicking on any of the blue text links to open the PDF preview. From the preview page, you will have the option to save the file to your computer or to send it to your printer if you want a paper version of any of the worksheets.All of the Pythagorean Theorem Worksheets below are samples from the Mashup Math K-12 Infinite Worksheet Libraries, where you can find hundreds more topic-specific math worksheets with answer keys for grades K-9, Algebra I, and Geometry.Pythagorean Theorem Worksheets What is the width of rectangle whose diagonal is 13 cm and length is 12 cm? John leaves school to go home. He walks 6 blocks North and then 8 blocks west. Find shortest distance between John's home and the school? Bob takes a shortcut along the diagonal of a rectangular plot that is 32cm wide and 24 cm long, instead of going along the sides. How much does that shorten his path? 4 An airplane is flying at the altitude of 650 m, and is at the distance of 3.5 km from the airport. What is the airplanes ground distance from the airport? A 17 feet ladder is placed on the wall of a house so that its lower end is 11 feet from the wall. At what height does the ladder touch the house? House A is 9 miles from house B, and 40 miles from house C. House A, B and C are forming a right triangle at A. A road connects houses B and C directly. Find the length of this road. A baseball diamond is a square with sides of 80 feet. What is the shortest distance, to the nearest tenth of a foot, between first base and third base? Slanted sides of a tent 11 feet long total and the bottom of the house is 120 feet across. What is the tallest point of this tent? In South, settlers often fashioned tents as an isosceles triangle. How long would the cloth have to be so that the opening of the tent was 5 meters high and 24 meters wide? Betty drives her car 160 km south and then 36 km east. How far is she from her starting point? Firefighters have a 117 feet extension ladder. In order to reach 108 feet up a building, how far away from the building should the feet of the ladder be placed? Share copy and redistribute the material in any medium or format for any purpose, even commercially. Adapt remix, transform, and build upon the material for any purpose, even commercially. The licensor cannot revoke these freedoms as long as you follow the license terms. Attribution You must give appropriate credit , provide a link to the license, and indicate if changes were made . You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. ShareAlike If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original. No additional restrictions You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits. You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation . No warranties are given. The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. A Pythagorean Theorem Word Problems Worksheet with an Answer Key is a tool used in math education to help students practice applying the Pythagorean Theorem to real-life situations. It includes a series of word problems that require students to use the theorem to solve for missing lengths in right triangles. The accompanying answer key provides the correct solutions for the problems, allowing students to check their work and understand the correct application of the theorem.The Pythagorean Theorem Word Problems Worksheet with Answer Key is often filed by teachers or educational institutions.FAQQ: What is the Pythagorean Theorem?A: The Pythagorean Theorem states that in a right triangle, the square of the hypotenuse (the side opposite the right angle) is equal to the sum of the squares of the other two sides.Q: How can the Pythagorean Theorem be applied to word problems?A: The Pythagorean Theorem can be used to solve word problems that involve finding the length of a side in a right triangle, when the lengths of the other two sides are known.Q: What is the formula for the Pythagorean Theorem?A: The formula for the Pythagorean Theorem is a^2 + b^2 = c^2, where c represents the length of the hypotenuse and a and b represent the lengths of the other two sides.Q: Can the Pythagorean Theorem be used for non-right triangles?A: No, the Pythagorean Theorem only applies to right triangles.Q: What is an example of a Pythagorean Theorem word problem?A: An example of a Pythagorean Theorem word problem is finding the length of a ladder leaning against a wall, given the distance of the ladder from the base of the wall and the height of the wall.Q: What is the answer key?A: The answer key is a document that provides the correct answers to the questions or problems in a worksheet. TutrsStringent selection, robust training, and continuous upskilling.To match your childs unique personality and learning style.Exam prep, Homework help, Advanced learning, and Remedial support.Helping 200,000+ students succeed!Received prestigious President's Education Awards Program from the President of US. Tops her class with an outstanding score of 77.5/80.Received prestigious Pradhan Mantri Rashtriya Bal Puraskar from the Prime Minister of India.Got Level 5 in the STAAR exam at the Renaissance Institute for Competitive Exams.Secured Rank 1 at SOF IMO Level 1 2023, by scoring an outstanding 100/100! Received prestigious President's Education Awards Program from the President of US. Tops her class with an outstanding score of 77.5/80.Received prestigious Pradhan Mantri Rashtriya Bal Puraskar from the Prime Minister of India.Got Level 5 in the STAAR exam at the Renaissance Institute for Competitive Exams.Secured Rank 1 at SOF IMO Level 1 2023, by scoring an outstanding 100/100! Received prestigious President's Education Awards Program from the President of US. Tops her class with an outstanding score of 77.5/80.Received prestigious Pradhan Mantri Rashtriya Bal Puraskar from the Prime Minister of India.Got Level 5 in the STAAR exam at the Renaissance Institute for Competitive Exams.My son started Cuemath in Grade 1 & now he is in Grade 7. All these years, I have been reassured for math subject! I'm sure he will continue with Cuemath till it serves!Cuemath has helped my kids learn math concepts and practice them in an online setting. It is a great online platform with 1:1 learning experience.Our daughter was losing interest in math. After 4-5 classes, I could see her asking for homework. She started liking math again and has now developed a lot of interest.Cuemath keeps introducing new methods, systems, & make it interesting for learners. Unlike the traditional teaching system, it has innovated a different way of teaching.My son has been taking coaching from Cuemath and is showing consistent improvement. It is mainly because of the standard curriculum, mentoring, supervision, & teaching.Have been a great platform with multiple avenues to augment my 8yr olds math skills. Good support from teacher too!My son started Cuemath in Grade 1 & now he is in Grade 7. All these years, I have been reassured for math subject! I'm sure he will continue with Cuemath till it serves!Cuemath has helped my kids learn math concepts and practice them in an online setting. It is a great online platform with 1:1 learning experience.Our daughter was losing interest in math. After 4-5 classes, I could see her asking for homework. She started liking math again and has now developed a lot of interest.Cuemath keeps introducing new methods, systems, & make it interesting for learners. Unlike the traditional teaching system, it has innovated a different way of teaching.My son has been taking coaching from Cuemath and is showing consistent improvement. It is mainly because of the standard curriculum, mentoring, supervision, & teaching.Have been a great platform with multiple avenues to augment my 8yr olds math skills. Good support from teacher too!We had a great experience with Cuemath. He started in 2021 and was quite weak but since joining Cuemath he has been getting better grades.Cuemath's app facilitates teacher-student interaction. The teacher in India understands our Australian math curriculum. We couldn't find such a teacher even locally.Private 1-to-1 tutoring that just works1-3 classes per week, with hassle-free scheduling.Customized learning plan for every child.Get regular insights on your child's progress.What is the frequency and duration of your classes?Typically, the number of classes is two per week for grades K to 8, and three per week for high school. But the schedule is flexible, according to your childs requirements and availability. Also, each class runs for 55 minutes, extendable to an hour.What devices do I need for attending your classes?A desktop or laptop computer that supports video calling is necessary for attending our classes. We also highly recommend a writing tablet for the best learning experience.My child has specific learning requirements. Is your program flexible enough?Absolutely. Our tutors will always customize the classes according to what your child needs - be it homework help, exam or test prep, remedial support for past gaps, or advanced learning.Can your tutors teach the topics covered in my childs school or curriculum?Our tutors are trained to teach according to various curricula across countries. Further, we have a fully customizable curriculum, tailored to your childs needs.Can my child join anytime of the year?Yes. Our tutors always customize the learning plan according to your childs needs, and the time left in the current academic year. If you wish to cover additional topics in the same time, you can always schedule extra classes.What if I dont like the tutor?In the rare case that happens, please raise a ticket with our helpdesk. Well be happy to diagnose the issue, and find you a different tutor that aligns better with your childs needs.What if I do not like your classes after I enroll? Will I get my money back?We have a no questions asked refund policy. If youre unhappy with the experience, you can cancel anytime for a full refund of the unused classes.What happens if my child misses a Cuemath class?We have a flexible leave policy that allows for both planned and unplanned leaves. Just keep your tutor informed.How can I keep track of my child's maths progress?We have a dedicated parent app, that lets you track the progress of your child, and also lets you connect with their tutor.How do I enroll for your classes?Please tap on the Get Started button. Well ask you a few questions about your child to understand their needs better. Once we receive the details, our admissions counselor will call you to match your child with the right tutor, and schedule a free trial class as per your availability. If you like the experience, you can choose a plan and make the payment to begin your classes.Affordable and personalized. Try a class for free. Pythagorean Theorem Calculator helps to find the unknown side length of a right-angled triangle when two side lengths are known. The Pythagorean Theorem gives the relation among the three sides of a right triangle and hence, is one of the most fundamental concepts of Geometry. What is the Pythagorean Theorem Calculator? Pythagorean Theorem Calculator is an online tool to determine any side of a right-angled triangle when the other two sides are given. Pythagorean Theorem sees use in several sister subjects such as Trigonometry. To use the Pythagorean Theorem calculator choose the side to be computed from the drop-down menu and enter the values in the input boxes. Pythagorean Theorem Calculator What is Pythagorean Theorem? In a right-angled triangle, the square of the hypotenuse is equal to the sum of the squares of the other two sides. The hypotenuse is the side of the triangle opposite to the right angle. Furthermore, the length of the hypotenuse is greater than the length of the altitude and the length of the base. However, the length of the hypotenuse will be lesser than the sum of lengths of the remaining two sides. The Pythagorean Theorem is used in the field of architecture to ensure that the structures created are strong and robust. In the given \(\Delta ABC \), \[\begin{align} \text{BC}^2 &= \text{AB}^2 +\text{AC}^2 \end{align}\] where, \(\text{AB}\) is the base, \(\text{AC}\) is the altitude or the height, and \(\text{BC}\) is the hypotenuse. To calculate the hypotenuse we simply plug in the values into the above equation. However, if we want to find the value of the base or the altitude we have to follow the steps given below. Suppose we need to determine the value of the altitude. We have to shift the base (AB2) to the left-hand side of the equation. We then subtract the base from the hypotenuse (BC2 - AB2). We now have to take the square root of this value to get the length of the altitude. The same steps can be used if we have to find the length of the base. How to Use the Pythagorean Theorem Calculator? Follow these steps which will help you to use the calculator. Step 1: Select the side of the right-angled triangle to be calculated, from the drop-down list. Step 2: Enter the value for the other two sides in the corresponding input boxes. Step 3: Click on "Calculate" to find the unknown side of the triangle. Step 4: Click on "Reset" to clear the fields and enter the new values. Want to find complex math solutions within seconds? Use our free online calculator to solve challenging questions. With Cuemath, find solutions in simple and easy steps. Book a Free Trial Class Solved Examples on Pythagorean Theorem Calculator Example 1: A right-angled triangle ABC, has base BC = 12 units, height AB = 5 units. What is the length of AC? Solution: By Pythagoras theorem we know that, AB2 + BC2 = AC2 AC2 = 52 + 122 AC = (52 + 122) = (52 + 122) AC = 13 units. Answer: The length of AC is 13 units. Example 2: A right-angled triangle PQR, has angle Q = 90. PQ = 8 units. PR = 10 units. Find QR. Solution: By Pythagoras Theorem we know that, PR2= PQ2 + QR2 102 = 82 + QR2 QR2 = 102 - 82 QR = (102 - 82) = (102 - 82) QR = 6 units. Answer: The length of QR is 6 units. Similarly, you can use the Pythagorean Calculator calculator to find the hypotenuse of right-angled triangles with: Side a = 6 units and side b = 8 units. Side a = 12 units and side b = 5 units. Side a = 3 units and side b = 4 units. Related Articles: Pythagoras Theorem Right Angled Triangle Math Calculators: Written By Livia Ferrao Last Modified 19-10-2022 Pythagoras Theorem Formula: Pythagorean theorem is another name for it. illustrates how the sides of a right-angled triangle are related. Pythagorean triples refer to the sides of a right triangle. The Pythagoras theorem can be used in a variety of situations, including trigonometry and other mathematical ideas. This theorem makes everything so simple that no one can help but fall in love with it. So, let us learn about the Pythagorean theorem and the Pythagorean theorem equations origins. In this article with illustrations, the Pythagoras formula and proof of this theorem are explained. The Pythagoras theorem is a formula for calculating the length of an unknown side and the angle of a triangle. We can derive the base, perpendicular, and hypotenuse formulas using this theorem. Lets take a closer look at the Pythagorean theorem equations using Pythagorean theorem examples. The Pythagorean theorem takes its name from the ancient Greek mathematician Pythagoras. He perhaps was the first one to proving Pythagorean theorem. But this special relationship between the sides of a right-angled triangle was probably known long before Pythagoras. Ancient Babylonian master builders used the Pythagoras theorem in construction though it wasntreally called the Pythagorean equation theorem, its principles were used. How do we know that? Some ancient clay tablets from Babylonia indicate that the Babylonians in the second millennium B.C., 1000 years before Pythagoras, had rules for generating Pythagorean triples. They understood the relationship between the sides of a right-angled triangle. They could even solvehypotenuse of an isosceles right-angled triangle, in which they would come up with an approximationof the final value up to five decimal places. They did this because the lengths would often represent some multiple of the formula: 1^2 + 1^2 = (sqrt of two)^2. Indian mathematicians in the ancient times knew the Pythagorean theorem, they also used something called the Sulbasutras (of which the earliest date from (ceremonial axe)ca. 800-600 B.C.) that discuss the theorem in the context of strict requirements for the orientation, shape, and area of altars for religious purposes. The ancient Mayas used variations of Pythagorean triples in their Long Count calendar. Apart from India, the Chinese and the Egyptians also used this theorem in construction. This is how many of the Egyptianpyramids are built. The Egyptians wanted a perfect 90-degree angle to build the pyramids which were actually two right-angle triangles whose hypotenuse forms the edges of the pyramids. There are some clues that the Chinese had also developed the Pythagoras theorem using the areas of the sides long before Pythagoras himself. But they did not actually write them down and so Pythagoras gets the credit for simply writing them down. Pythagoras was born around 5000 BC, on an island called Samos in Greece. There is not much information about his youth though he did a lot of travelling to study is all thatis known. Latter Pythagorassettled in Crotone(a city and comune in Calabria), where he started his cult or group called thePythagoreans. ThePythagoreans loved maths so muchthat it was like a god to them, they pretty much-worshipped maths. They believed that numbers ruled the universe with their mystical and spiritual qualities. Now, whether it was really Pythagoras or another person among the Pythagoreans who discoveredthe theorem is unknownsince it isnt recorded in any of their writings. But when this theorem was discovered and proved the Pythagoreansacrificed the huge number of bulls to their number of gods. Well, they were quite serious about maths Here are some of the frequently asked questions (FAQs) on the origin of Pythagoras Theorem: Q1: Is Pythagoras theorem only used for right triangles?Ans: Pythagorastheorem onlyworks forright-angledtriangles, so you can use it to test whether atrianglehas arightangle or not. Q2: Did Indian Mathematicians use Pythagoras theorem in ancient India?Ans: Indian mathematicians in the ancient times knew the Pythagorean theorem, they also used something called the Sulbasutras that discuss the theorem in the context of strict requirements for the orientation, shape, and area of altars for religious purposes. The ancient Mayas used variations of Pythagorean triples in their Long Count calendar. Q3: When and where was the Pythagoras born?Ans: Pythagoras was born around 5000 BC, on an island called Samos in Greece. Q4: From where does the Pythagoras Theorem derive its name?Ans: The Pythagorean theorem takes its name from the ancient Greek mathematician Pythagoras. He perhaps was the first one to offer proof of the theorem. Q5 Where did the Pythagoras theorem originate from?Ans: The Pythagorean theorem first originated in ancient Babylon and Egypt (beginning about 1900 B.C.). Some ancient clay tablets from Babylonia indicate that the Babylonians in the second millennium B.C., 1000 years before Pythagoras, had rules for generating Pythagorean triples. They understood the relationship between the sides of a right-angled triangle. It sure is amazing to know such a story behind such a simple proof of Pythagoras theorem. To know more about such amazing stories stay with us on Embibe. We not only make education fun but also help you score higher in your exams. So dont forget to practice and take tests on Embibe, absolutely! We hope you find the article on the Origins of Pythagoras theorem helpful. If you have any doubt regarding this article, kindly drop your comments below and we will get back to you at the earliest. 0 ratings0% found this document useful (0 votes)11 viewsThe document contains a worksheet with eight Pythagorean theorem word problems, each requiring the calculation of distances or lengths using the theorem. Each problem is followed by a detailSaveSave Pythagorean Theorem Word Problems Worksheets With ... For Later0%0% found this document useful, undefined The Pythagoras theorem is an important theorem used in geometry that shows the relationship between the lengths of the sides of a right-angled triangle. It is named after the famous Greek mathematician Pythagoras and is also known as the Pythagorean theorem.The Pythagoras theorem holds great significance in geometry and forms the base for solving various mathematical problems. It finds many real-life applications in the field of construction, navigation, surveying, architecture, etc.What is Pythagoras Theorem?The Pythagoras theorem states that the sum of the square of the two sides of a right-angle triangle is equal to the square of the third side called the hypotenuse. The equation formed as per the Pythagoras theorem is a + b = c, where a, b and c are the sides of a right triangle. The ability to find the length of a side when the other two sides length is given makes the Pythagorean Theorem a beneficial construction and navigation technique.Here are 5 real-life applications of the Pythagorean Theorem1. ArchitectureThe Pythagorean Theorem is applicable to calculate the length of the diagonal connecting any two straight lines. This aspect of the Pythagorean theorem is pretty useful in designing and construction. For instance, while building a sloped roof, if you know the height and the length of the roof to cover, you can use the Pythagorean Theorem to find the diagonal length or to calculate the roofs slope. You can utilize this data to precisely cut beams to support the roof structure or to calculate the roofs total area.2. Painting WallsPainters also make use of the Pythagoras theorem to paint buildings. They need to evaluate the ladder height and distance from the wall to complete the work without an accident. In this case, the ladder is the hypotenuse in terms of the theorem.3. NavigationThe Pythagorean theorem is useful in two-dimensional navigation, mostly used by ships to find the shortest routes. Sailors navigate using this theorem by making a horizontal and a vertical line from the current location to form a right angled triangle in order to find the shortest distance to the destination. The distances in each direction will be the two sides of the triangle, and the shortest line connecting them will be diagonal. The same law applies to other forms of navigation on land or the sky. For instance, a flight can use its altitude above sea level and its distance from the destination airport to find the exact geolocation to begin a safe descent to that airport.4. Building Square & AnglesRight angles and square shapes are quite common in building designs and construction work. Engineers use the basic property of the Pythagoras theorem, which states that if the sides satisfy the theorem condition, the triangle will always form a right angle. While laying out the building foundation or constructing a right-angled corner between two walls, engineers set out a triangle from three strings that correspond with sides lengths satisfying the theorem.5. SurveyingThe Pythagorean Theorem is used to calculate many aspects of the terrain that otherwise are hard to assess, such as the steepness of slopes of mountains. A surveyor uses a telescope and a measuring stick at a fixed distance away, so when the telescopes line of sight and the measuring stick create a right angle, a triangle is formed. Since the surveyor has the information about the two sides of the triangle that are the height of the measuring stick and the horizontal distance of the stick from the telescope, he calculates the steepness of the hill by using the theorem to find the length of the slope that covers that distance.ConclusionThe Pythagorean theorem is foundational in various branches of mathematics, physics, geology, architecture, and more. There are numerous interactive activities for kids to reinforce the Pythagoras theorems understanding, like maths games, puzzles, and worksheets.Cuemath offers excellent learning resources for kids to gain a clear understanding of various concepts and their applications in our everyday life. Cuemath live online classes are designed to promote the real-life application of maths for kids to learn interestingly.Watch this space for updates in the Hacks category onRunning Wolfs Rant.Like what you just read? Buy us a coffee or Subscribe To Our Newsletter to stay in the loop. Feel free to explore our website, check out our Featured Articles or scroll down to see the articles that are related to this article below. We've been around since 2008, so there's plenty of content. Featured Event: RAMFest Halloween Edition Living in South Africa and looking for a new smartphone? Check out Mondo Mobile - They partner with major networks to offer competitive deals, making it easy to find affordable options for your connectivity needs. How can financial brands set themselves apart through visual storytelling? Our experts explainhow.Learn MoreThe Motorsport Images Collections captures events from 1895 to todays most recentcoverage.Discover The CollectionCurated, compelling, and worth your time. Explore our latest gallery of EditorsPicks.Browse Editors' FavoritesHow can financial brands set themselves apart through visual storytelling? Our experts explainhow.Learn MoreThe Motorsport Images Collections captures events from 1895 to todays most recentcoverage.Discover The CollectionCurated, compelling, and worth your time. Explore our latest gallery of EditorsPicks.Browse Editors' FavoritesHow can financial brands set themselves apart through visual storytelling? Our experts explainhow.Learn MoreThe Motorsport Images Collections captures events from 1895 to todays most recentcoverage.Discover The CollectionCurated, compelling, and worth your time. Explore our latest gallery of EditorsPicks.Browse Editors' Favorites

Pythagorean theorem word problems worksheet with answers pdf. Word problems pythagorean theorem worksheet pdf. Pythagoras theorem worksheet pdf. Worksheet pythagorean theorem problems answer key. Pythagorean theorem worksheet word problems.