Pythagorean Theory

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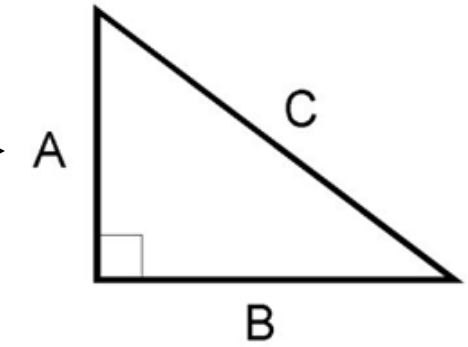
900 pixel horizontal rule

Right_triangle.jpg



ptheory.htm web page. Text is black and background is white. Font family is Arial. Download the images from the worldclasscad.com website.

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We use this theory to determine the side of any right triangle. The Pythagorean Theory states that the square of the short leg A added to the square of the next leg B will equal the square of the long side or hypotenuse C. The most common example of this is the 3, 4 and 5 right triangle where 3 squared is 9 and 4 squared is 16. Add those two numbers together, 9 and 16 to obtain 25, which is 5 squared.

pythagorean_formula.jpg with Border

$$A^2 + B^2 = C^2$$

Size 3

When solving for a single side, we can follow any of the following formulas where we take the square root after we subtract or add a squared number. To find side A for a right triangle with a hypotenuse of 7 and side B of 5, we square 7 to get 49 and we subtract the square of 5 or 25. The answer is 24. Side A equals the square root of 24 or 4.90.

pythagorean_formulas.jpg with border

$$A = \sqrt{C^2 - B^2}$$

$$B = \sqrt{C^2 - A^2}$$

$$C = \sqrt{A^2 + B^2}$$

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