The pythagorean theorem essay sample

Introduction

$a^2 + b^2 = c^2$ where a and b are the sides of a right triangle and c is the hypotenuse is the answer most students will give when asked to define the Pythagorean Theorem. Ask them to prove it and most can't unless they are fairly advanced in mathematics. By and large, most anyone who has taken high school algebra has encountered this theorem without every really understanding it.

In words, the Pythagorean Theorem states that the square on the hypotenuse of a right triangle has an area equal to the combined areas of the squares on the other two sides. [1]

The Egyptians, Babylonians and Chinese knew of the right triangle long before Pythagoras came along, and the Egyptians had devised a right triangle of rope with twelve evenly spaced knots for measurements. They knew that " 3, 4 and 5 make a 90 degree angle and used the triangle of rope as an instrument of measurement:

http://jwilson. coe. uga. edu/EMT668/EMT668. Student. Folders/HeadAngela/essay1/Pythagorean. html

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Martin Gardner. " The Pythagorean Theorem." <u>Sixth Book of Mathematical Games from Scientific American </u>. Charles Scribner's Sons: New York, 1971. Chapter 16.

" Pythagoras." Math Mania, <u>Oracle ThinkQuest Library </u>(n. d.), 27 February 2006, http://library. thinkquest. org/J0110961/pyth. htm

Regula, Timothy. " The Pythagorean Theorem." <u>The Perseus Project Website.</u> Tuft's University, 1995, 28 February 2006, http://www. perseus. tufts. edu/GreekScience/Students/Tim/Pythag'sTheorem. html

University Of Minnesota, " A Brief History of the Pythagorean Theorem," Geometry Center website 1994 – 1998, 26 February 2006, http://www. geom. uiuc. edu/~demo5337/Group3/hist. html

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This figure (popularly known as " The Bride's Chair) represents the visual aspect of the Pythagorean Theorem, which originated with Euclid (Heather Lindauer, 1998).

[1] Martin Gardner, 1971. Ch. 16, p. 152

[2] Jacobo Bulaevsky, 2003, http://www. arcytech. org/java/pythagoras/history. html

[3] " Pythagoras," Math Mania, <u>Oracle ThinkQuest Library </u>(n. d.), http://library. thinkquest. org/J0110961/pyth. htm

[4] University Of Minnesota, " A Brief History of the Pythagorean Theorem," Geometry Center website 1994 – 1998, http://www. geom. uiuc. edu/~demo5337/Group3/hist. html

[5] U of Minnesota Geometry Center.

[6] Eric W. Weisstein. " Pythagorean Theorem." From MathWorld–A Wolfram Web Resource. http://mathworld. wolfram. com/PythagoreanTheorem. html

[7] Angie Head, 1997, University of Georgia Dept. Of Mathematics.

[8] Ibid.

[9] Timothy Reluga. " The Pythagorean Theorem." <u>The Perseus Project</u>. Tufts University, 1995. http://www. perseus. tufts. edu/GreekScience/Students/Tim/Pythag'sTheorem. html

[10] Cathleen V. Sanders, 1997, 2005. " Right Triangles." <u>Connecting Geometry</u>. Ch. 6, http://www. punahou. edu/acad/sanders/connectinggeometry/ch_06Pythag. html

[11] Museum Of Harmony and Golden Section, http://www. goldenmuseum. com/0202Geometry_engl. html

[12] ibid.