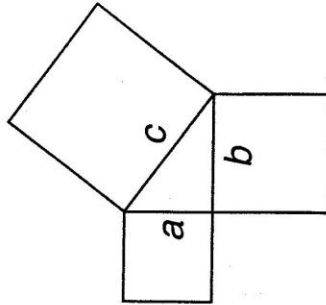


PYTHAGOREAN THEOREM

$$a^2 + b^2 = c^2$$



A large, winding path is formed by a series of squares and triangles. The path starts at a black triangle labeled **START** and ends at a black triangle labeled **FINISH**. The path is divided into several sections, each with a different instruction or symbol.

The path is labeled with **A**, **B**, and **C** at various points. The length of the path is labeled with **a**, **b**, and **c** at different segments.

The instructions and symbols along the path are:

- LOSE NEXT TURN
- MOVE AROUND VERTEX C
- MOVE BACKWARD TO VERTEX B
- MOVE TO STARTED WHERE YOU STARTED THIS TURN
- MOVE BACKWARD SPACES $\frac{1}{9}$
- MOVE BACKWARD SPACES $\frac{1}{16}$
- ADVANCE FORWARD TO VERTEX B

Symbols along the path include question marks and right-angled triangles. A diagram at the bottom shows a path starting from a triangle, moving right, then up, then right, then down, then right, ending at a triangle. Arrows indicate the direction of movement.

QUESTIONS FOR THE “?” CARDS

<p>Find the missing member of the Pythagorean triple (7, _____, 25). Answer: 24</p>	<p>What is the length of the legs in a 45°-45°-90° right triangle with hypotenuse of length $\sqrt{2}$? Answer: 1</p>	<p>True or false? The Egyptians used the right triangle for land measurement. Answer: true</p>
<p>Is (8, 15, 17) a Pythagorean triple? Answer: yes</p>	<p>Find the length of the hypotenuse of a right triangle if the legs have lengths 1 and 2. Answer: $\sqrt{5}$</p>	<p>Solve the equation $a^2 + b^2 = c^2$ for c. Answer: $c = \sqrt{a^2 + b^2}$</p>
<p>What is the measure of the two nonright angles in an isosceles right triangle? Answer: 45° and 45°</p>	<p>Using $a^2 + b^2 = c^2$, find b if $c = 10$ and $a = 6$. Answer: $b = 8$</p>	<p>A number that is the square of a whole number is called a _____ square. Answer: perfect</p>
<p>Solve the equation $a^2 + b^2 = c^2$ for a. Answer: $a = \sqrt{c^2 - b^2}$</p>	<p>What is the length of the diagonal of a rectangle with sides of lengths 5 and 12? Answer: 13</p>	<p>Is it true that if $a^2 + b^2 = c^2$, then $\frac{a^2}{c^2} + \frac{b^2}{c^2} = 1$? Answer: yes</p>
<p>True or false? Pythagoras lived circa A.D. 500. Answer: false (500 B.C.)</p>	<p>Have the person to your left pick two numbers for the legs of a right triangle. Compute the hypotenuse.</p>	<p>Is (16, 20, 25) a Pythagorean triple? Answer: no</p>
<p>Can an isosceles triangle be a right triangle? Answer: yes</p>	<p>Pythagoras was of what nationality? Answer: Greek</p>	<p>Explain to the rest of the players how a right triangle can be found in each game piece.</p>
<p>Is (7, 8, 11) a Pythagorean triple? Answer: no</p>	<p>How do you spell Pythagoras?</p>	<p>The Pythagorean theorem is applicable for what type of triangle? Answer: a right triangle</p>

QUESTIONS FOR THE “?” CARDS

<p>What are the lengths of the legs of a 30°-60°-90° triangle with a hypotenuse of length 10?</p> <p>Answer: 5 and $5\sqrt{3}$</p>	<p>If you hiked 3 km west and then 4 km north, how far are you from your starting point?</p> <p>Answer: 5 km</p>	<p>The length of the hypotenuse of a 45°-45°-90° triangle is $10\sqrt{2}$. What are the lengths of the legs?</p> <p>Answer: 10</p>
<p>The square of the _____ of a right triangle equals the sum of the squares of the lengths of the two legs.</p> <p>Answer: hypotenuse</p>	<p>If the lengths of the legs of a 30°-60°-90° triangle are 8 and $8\sqrt{3}$, what is the length of the hypotenuse?</p> <p>Answer: 16</p>	<p>If the lengths of a leg and the hypotenuse of a right triangle are 5 and 10, respectively, what is the length of the other leg?</p> <p>Answer: $5\sqrt{3}$</p>
<p>Find the length of the diagonal of a square to the nearest hundredth if the square's area is 81 cm^2.</p> <p>Answer: 12.72 cm</p>	<p>If the lengths of the legs of a 45°-45°-90° triangle are 5, what is the length of the hypotenuse?</p> <p>Answer: $5\sqrt{2}$</p>	<p>If the diagonal of a square has length 8, what is the length of a side?</p> <p>Answer: $4\sqrt{2}$</p>