Pythagorean Theorem Mini-Lesson

The **Pythagorean Theorem** can be used to find the missing length in a _____ triangle.

The sides of a right triangle have special names:

leg, a   hypotenuse, c

The **hypotenuse** is the side opposite the right angle.

The **legs** are the two sides that form the right angle.

leg, b
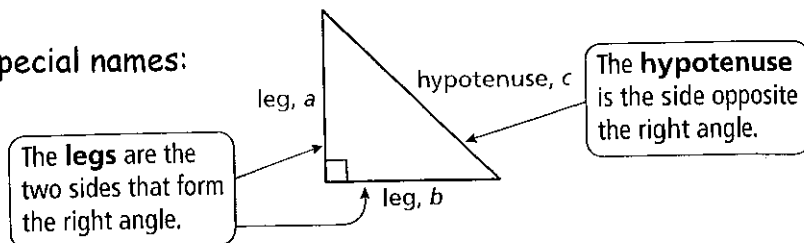
The **Pythagorean Theorem** states that in any right triangle, the sum of the measures of the squares of the lengths of the legs is equal to the square of the length of the hypotenuse.
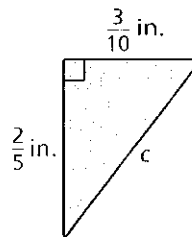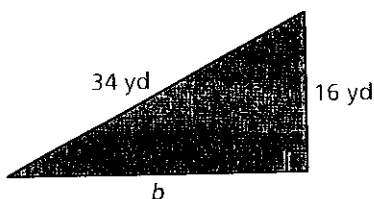
The Pythagorean Theorem:

Examples:

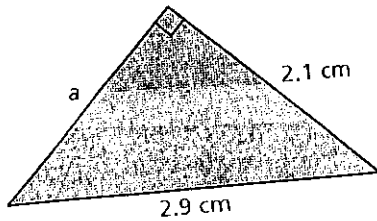1. Find the length of the hypotenuse of the triangle:

5 m

c   12 m

2. Find the length of the hypotenuse of the triangle:

$\frac{3}{10}$ in.

$\frac{2}{5}$ in.   c
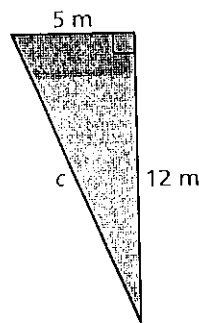
3. Find the missing length of the triangle:

34 yd   16 yd

b

4. Find the missing length of the triangle:

2.1 cm

a

2.9 cm

5. Paintball team A is located 70 feet north and 60 feet east of the base. Team B is located 30 feet north and 30 feet east of the base. How far apart are the teams?

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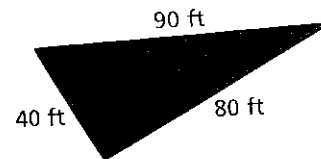
In order for a triangle to be a right triangle, the Pythagorean Theorem must be true for the side lengths of the right triangle.

6. Tell whether each triangle is a right triangle:

A.

25 m   7 m

24 m

B.

90 ft

40 ft   80 ft
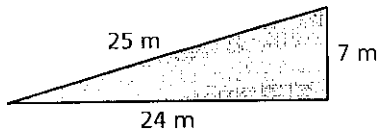
When $a^2 + b^2 = c^2$ is true for the side lengths of a triangle, these three lengths form a

_____ _____.

Progress Monitoring: *How do you feel about your level of understanding of solving problems involving the Pythagorean Theorem? (Rate yourself from 0 (don't understand at all) to 10 (doing awesome))*

Number Line

0   1   2   3   4   5   6   7   8   9   10