Pythagoras theorem

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A sample from this topic. The complete topic collection contains three different resources and worked solutions.

Read the explanation and worked example. Show your working; use a calculator only where asked.

What you will practise

• Find missing sides in right-angled triangles.

• Explain a method and check the reasonableness of a result.

Useful starting skills: Use the prerequisite operations and representations shown in the worked example.

For a right-angled triangle, $a^2+b^2=c^2$, where c is the hypotenuse opposite the right angle. Identify that side first.

Add the leg squares to find the hypotenuse; subtract a leg square from the hypotenuse square to find the other leg. Then take the positive square root.

Worked example

A right triangle has legs 9 cm and 12 cm. Find hypotenuse.

$c^2=81+144=225$.

$c=\sqrt{225}=15$.

Answer: 15 cm

Try it yourself

Name: _____ Date: _____

1. Find hypotenuse for legs 5 cm and 12 cm.

2. Find missing leg when hypotenuse 10 m and other leg 6 m.

Answers and explanations

Check the method as well as the final answer. An alternative correct method is also valid.

1. 13 cm

√(25+144).

2. 8 m

√(100-36).

Curriculum reference: VC2M8M06

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