

## Check out

You should now be able to ...

✓ Understand and use Pythagoras' theorem.	7	1 - 3
✓ Use Pythagoras' theorem in real-life contexts.	7	4, 5
✓ Construct a triangle with ruler and compasses.	7	6 - 8
✓ Draw the locus of a point from a given rule.	7	9

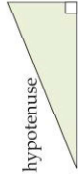
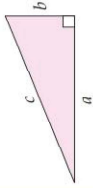

## Test it

Questions

7	1 - 3
7	4, 5
7	6 - 8
7	9



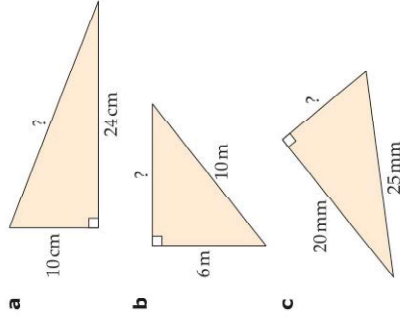
## Language Meaning

<b>Hypotenuse</b>	The longest side of a right-angled triangle (Always opposite the right-angle).	
<b>Pythagoras' theorem</b>	$a^2 + b^2 = c^2$	
<b>Pythagorean triple</b>	Any three integers $a$ , $b$ , and $c$ that obey Pythagoras' theorem.	
<b>Locus</b>	The set of points that obey a given rule.	$12^2 + 5^2 = 13^2$ $3, 4, 5$ as $3^2 + 4^2 = 25 = 5^2$

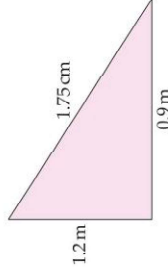
## Example

The 2D locus of all points 5 cm from A are in a circle radius 5 cm, centre A
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1 Calculate the unknown lengths in these right angled triangles.



2 Use Pythagoras' theorem to decide whether this triangle is right-angled.



3 Calculate the distances between these pairs of points. Give your answers as surds in their simplest form.

- a (4, 8) and (-6, 13)  
b (-5, -7) and (-9, 9)

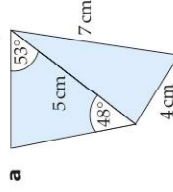
## What next?

0 - 4	Your knowledge of this topic is still developing. To improve look at Formative test: 3C-12; MyMaths: 1089, 1090, 1112 and 1147
5 - 7	You are gaining a secure knowledge of this topic. To improve look at Invisiblepen: 371, 375 and 381
8 - 9	You have mastered this topic. Well done, you are ready to progress!

4 A ladder of length 7 m leans against a wall with its base 2 m from the wall. How far up the wall does the ladder reach? Give your answer to the nearest cm.

5 What is the length of the diagonal of a 5 cm square? Give your answer in simplified surd form.

6 Construct this quadrilateral accurately.



7 Construct the two different triangles that are possible from this information. AB = 5 cm, BC = 3 cm, angle A = 25°

8 Write a set of instructions for drawing an equilateral triangle with side length 4.

9 A goat is tethered 2 m from the corner of a shed as shown in the picture. The rope is 3 m long. On a scale drawing show the area that the goat can reach.

