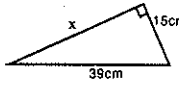
A Triangles & Triples

1. Calculate the length of sides x, y and z. Round sensibly.



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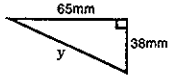

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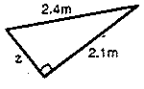

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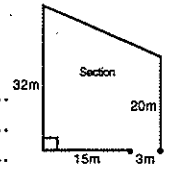
2. Which of these is **not** a Pythagorean triple?

A. 8, 10, 6 B. 24, 7, 25

C. 26, 24, 10 D. 40, 9, 42

B Applications

1. Calculate the total length of the fence around this section.



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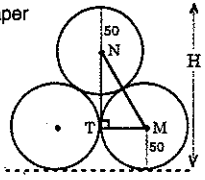
2. We will calculate the height H of this stack of 3 rolls of paper with radius 50cm.



a) How long is MN?

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b) How long is MT?

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c) Calculate the length of NT and hence height H.

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C Rugby

1. This rugby field is 65m wide. What is the length of each grid square? .....

2. The Fullback at F kicks the ball so that it goes out at A. Calculate the length of his clearing kick FA.

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3. The Centre and the Winger are both on the 10m line (C and W). The Winger gives a centering 'bomb' kick which goes high and slightly to the right, but is only 25m long so the Centre can run onto it and attempt to catch it. How far does the Centre have to run to make the catch?

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4. A try is scored at T and the Fullback walks back from the point where the try was scored until he is 30m from the centre of the goal posts. How far from the goal line does he place his kicking tee?

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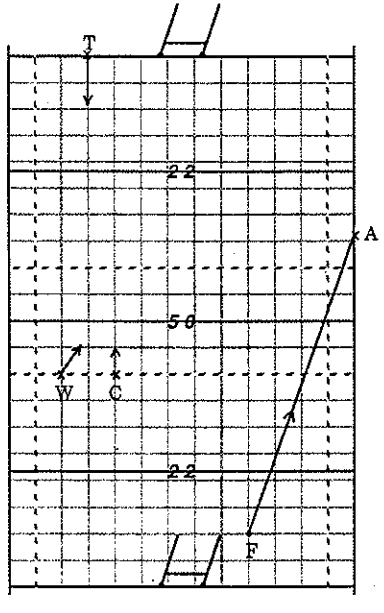
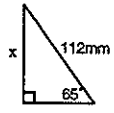
Mark the Fullback's kicking position on the field with a K.



A Sides

1. Calculate sides x, y and z.



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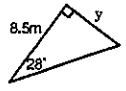

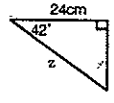

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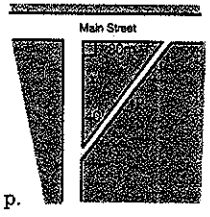
2. The street plan shows a shortcut to Main Street.



a) Calculate length x.

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b) Calculate the length of path p.

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B Angles

1. Complete.

a) If sin A = 0.3907, then A = ...

b) If cos B = 0.4384, then B = ...

2. Calculate angles A and B.

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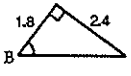

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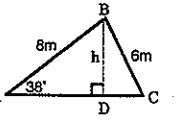

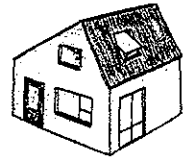

This diagram shows the cross section of an attic.

a) Use ΔABD to calculate the height of the attic.

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b) Use ΔBCD to calculate angle C.

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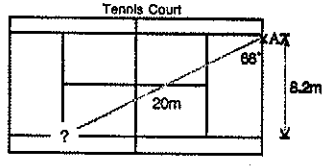
C In Court

1.



The 20m long shot of tennis player A makes an angle of 66° with the baseline. Is the ball inside the (singles) court?

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2. Julia is taking a free throw in a basketball game. She stands 5m directly in front of the basket. Julia aims for the square on the backboard which is 3.25m above the ground. Julia is 1.7m tall. Calculate the angle of elevation of the intended shot.

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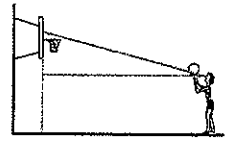

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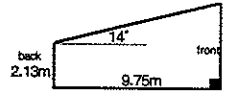

This diagram shows the side view of a squash court. Calculate the height of the front wall. .....

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