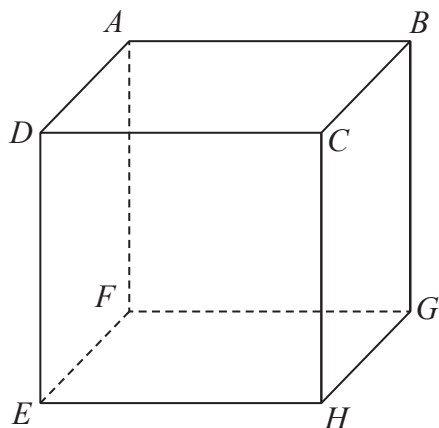


1 The diagram shows a cube.



$AH = 11.3$  cm correct to the nearest mm.

Calculate the lower bound for the length of an edge of the cube.  
You must show all your working.

..... cm

**(Total for Question 1 is 4 marks)**

- 2 The length of a football pitch is 90 metres, correct to the nearest metre.

Complete the error interval for the length of the football pitch.

$$\dots\dots\dots \text{m} \leq \text{length} < \dots\dots\dots \text{m}$$

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**(Total for Question 2 is 2 marks)**

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3  $p = \sqrt{\frac{2e}{f}}$

$e = 6.8$  correct to 1 decimal place.

$f = 0.05$  correct to 1 significant figure.

Work out the upper bound for the value of  $p$ .  
Give your answer correct to 3 significant figures.  
You must show all your working.

.....

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**(Total for Question 3 is 3 marks)**

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- 4 A race is measured to have a distance of 10.6 km, correct to the nearest 0.1 km.  
Sam runs the race in a time of 31 minutes 48 seconds, correct to the nearest second.

Sam's average speed in this race is  $V$  km/hour.

By considering bounds, calculate the value of  $V$  to a suitable degree of accuracy.  
You must show all your working and give a reason for your answer.

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**(Total for Question 4 is 5 marks)**

- 5 Martin used his calculator to work out the value of a number  $P$ .  
He wrote down the first two digits of the answer on his calculator.

He wrote down 1.2

Complete the error interval for  $P$ .

$$\dots\dots\dots \leq P < \dots\dots\dots$$

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**(Total for Question 5 is 2 marks)**

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- 6 A number,  $d$ , is rounded to 1 decimal place.  
The result is 12.7

Complete the error interval for  $d$ .

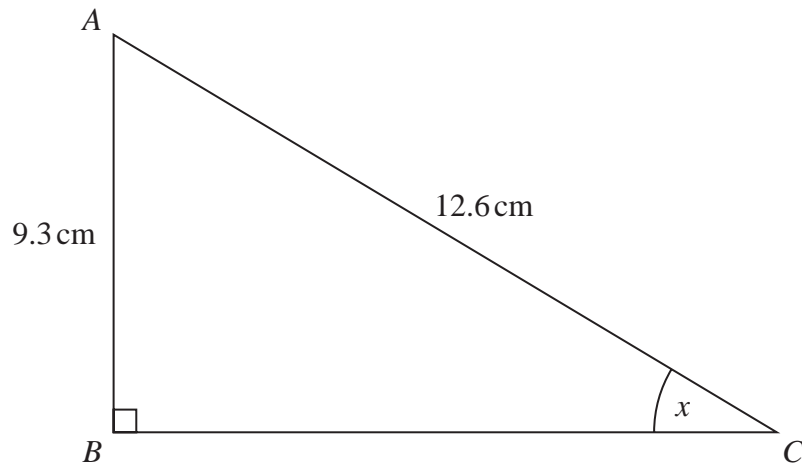
$$\dots\dots\dots \leq d < \dots\dots\dots$$

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**(Total for Question 6 is 2 marks)**

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7  $ABC$  is a right-angled triangle.



$AB = 9.3\text{ cm}$  correct to the nearest mm.

$AC = 12.6\text{ cm}$  correct to the nearest mm.

Calculate the lower bound for the size of the angle marked  $x$ .  
You must show all your working.

o

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(Total for Question 7 is 3 marks)

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