

## 1MA1 Foundation themed papers: Trigonometry

Write your name here	
Surname	Other names
Centre Number	Candidate Number
<input type="text"/>	<input type="text"/>
<b>Pearson Edexcel</b> Level 1/Level 2 GCSE (9–1)	
<b>Mathematics</b> <b>Trigonometry</b>	
	Paper Reference <b>1MA1</b>
<b>You must have:</b> Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.	Total Marks
	<input type="text"/>

### Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- You must **show all your working.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- If your calculator does not have a  $\pi$  button, take the value of  $\pi$  to be 3.142 unless the question instructs otherwise.

### Information

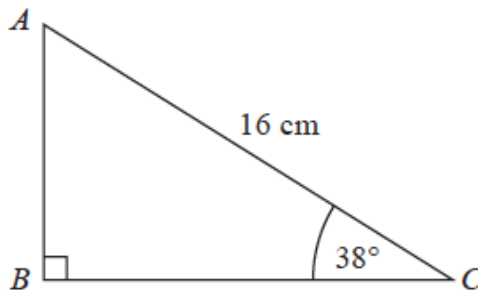
- The total mark for this paper is **19**. There are **8** questions.
- Questions have been arranged in an ascending order of mean difficulty, as found by all students in the June 2017–November 2019 examinations.
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*

### Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

**1MA1 Foundation themed papers: Trigonometry**

**1**  $ABC$  is a right-angled triangle.



Calculate the length of  $AB$ .  
Give your answer correct to 2 decimal places.

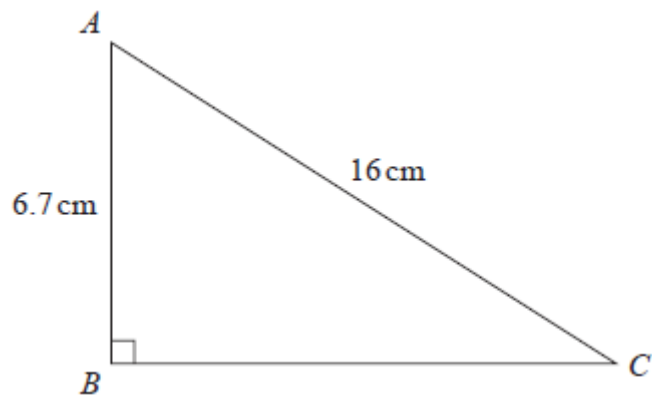
.....cm

**(Total for Question 1 is 2 marks)**

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2  $ABC$  is a right-angled triangle.



Calculate the length of  $BC$ .  
Give your answer correct to 1 decimal place.

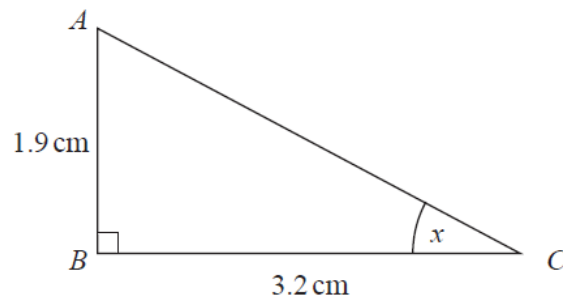
..... cm

**(Total for Question 2 is 3 marks)**

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**3**  $ABC$  is a right-angled triangle.



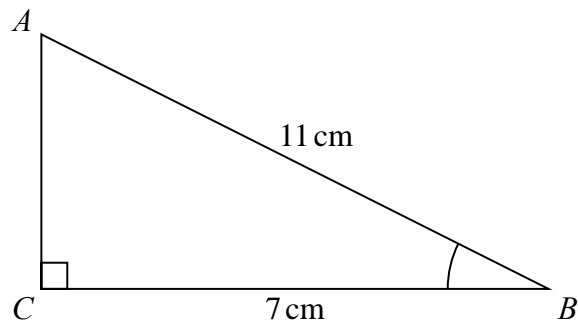
Work out the size of the angle marked  $x$ .  
Give your answer correct to 1 decimal place.

..... °  
**(Total for Question 3 is 2 marks)**

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**4**  $ABC$  is a right-angled triangle.



- (a) Work out the size of angle  $ABC$ .  
Give your answer correct to 1 decimal place.

.....<sup>o</sup>  
(2)

The length of the side  $AB$  is reduced by  $1\text{ cm}$ .

The length of the side  $BC$  is still  $7\text{ cm}$ .

Angle  $ACB$  is still  $90^\circ$

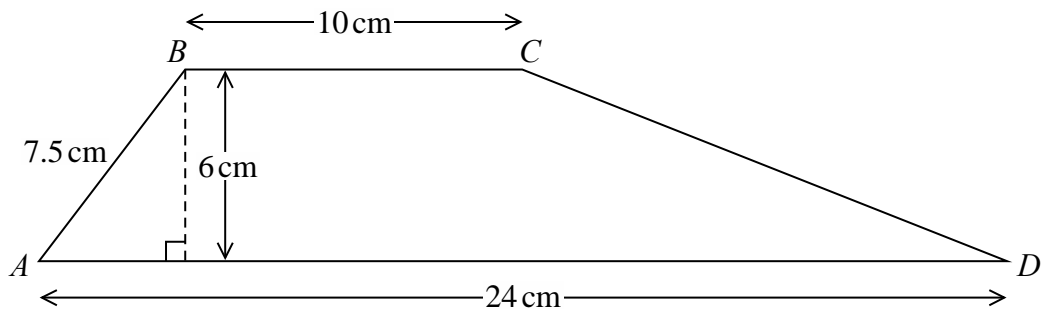
- (b) Will the value of  $\cos ABC$  increase or decrease?  
You must give a reason for your answer.

.....  
.....  
(1)

**(Total for Question 4 is 3 marks)**

**5**  $ABCD$  is a trapezium.

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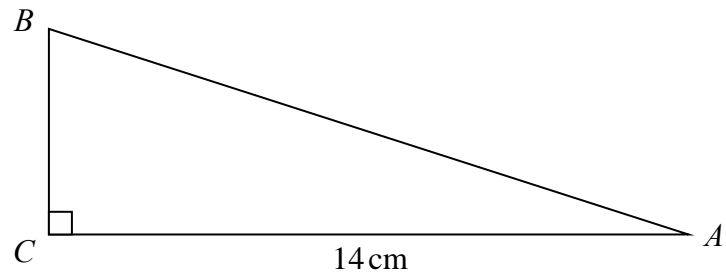
Work out the size of angle  $CDA$ .  
Give your answer correct to 1 decimal place.

.....°  
**(Total for Question 5 is 5 marks)**

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**6**  $ABC$  is a right-angled triangle.

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$AC = 14$  cm.  
Angle  $C = 90^\circ$

size of angle  $B$  : size of angle  $A = 3 : 2$

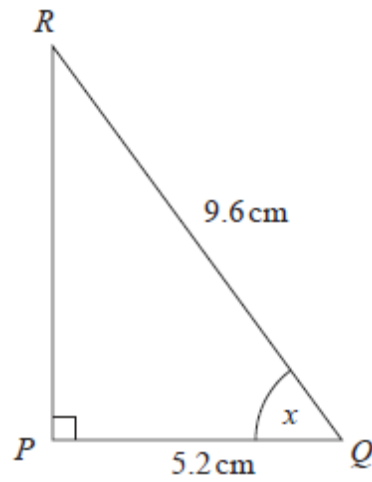
Work out the length of  $AB$ .  
Give your answer correct to 3 significant figures.

.....cm  
**(Total for Question 6 is 4 marks)**

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**7**  $PQR$  is a right-angled triangle.

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Work out the size of the angle marked  $x$ .  
Give your answer correct to 1 decimal place.

.....°

**(Total for Question 7 is 2 marks)**

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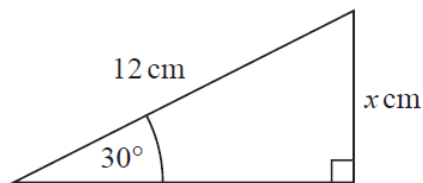


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**8** (a) Write down the exact value of  $\cos 30^\circ$

.....  
**(1)**

(b)



Given that  $\sin 30^\circ = 0.5$ ,  
work out the value of  $x$ .

.....  
**(2)**

**(Total for Question 8 is 3 marks)**

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**TOTAL MARKS FOR PAPER: 19**