GCSE MATHEMATICS
AQA I Edexcel I OCRIWJEC

## Sine Rule

Please write clearly in block capitals

Forename:
Surname:

## Materials

For this paper you must have:

- mathematical instruments

You can use a calculator.

## Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.


## Information

- The marks for questions are shown in brackets.
- You may ask for graph paper, tracing paper and more answer paper. These must be tagged securely to this answer book.


## Advice

- In all calculations, show clearly how you work out your answer.

1 Consider the following triangle

```
\angleBAC=30
\angleABC=80
```



Find the length of $x$
Give your answer to 2 decimal places.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
Answer $\qquad$ cm

## Turn over for next question

2 Consider the following triangle
$\angle A B C=33.1^{\circ}$


Calculate the angle $B C A$
Leave your answer to 2 decimal places.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
Answer $\qquad$

Turn over for next question

3 The diagram below shows a triangle
$\angle B A C=15^{\circ}$
$x$ is an obtuse angle.

Work out the size of the angle $x$
Give your answer to 3 significant figures.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
Answer $\qquad$

Turn over for next question

4 The diagram below shows a triangle.
$M O=12 \mathrm{~cm}$
$L M=6.5 \mathrm{~cm}$
$\angle O L M=52^{\circ}$


4(a) Find the angle $\angle M O L$
Give your answer to 1 decimal place.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
Answer $\qquad$。
Find the length $L 0$ using the sine rule.
$5 \quad$ The diagram below shows a triangle with angles $x, 50^{\circ}$ and $2 x-35$


5(a) Work out the value of $x$.
[1 mark]
$\qquad$
$\qquad$
Answer $\qquad$

5(b) Caculate the length $B C$.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
Answer $\qquad$

Turn over for next question

6 In the diagram,
$A D=C D=6 \mathrm{~cm}$
$\angle \mathrm{ACD}=40^{\circ}$
$\angle \mathrm{ABD}=45^{\circ}$


6(a) Calculate the length AC
[3 marks]
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
Answer $\qquad$

Turn over for next question

6(b) Caculate the length $B D$.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
Answer $\qquad$

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