

GCSE MATHEMATICS

AQA | Edexcel | OCR | WJEC

(Level 6 - 9)

Circle Theorems

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.

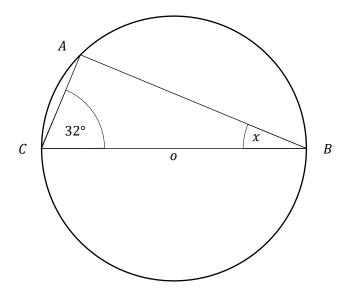
2 Points A, B, and C are all on the circumference of the circle. 1 (Level 6) ${\it O}$ represents the centre. Not drawn accurately Α 98° x В Calculate the angle x, giving a reason for your answer. [2 marks] Answer

Turn over for next question

2

2 Points A, B, and C lie on the circumference of a circle. (Level 6)

The line BC passes through the centre of the circle, O.



Not drawn accurately

Calculate the angle x, giving your reasoning for each step.

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Answer



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	·	
3	The diagram below shows a cyclic quadrilateral $ABCD$. Points A, B, C and D touch the circumference of the circle. Line BD goes through centre O .	(Level 6)
	A x 0 57° C	Not drawn accurately
	Work out the size of the angle marked x .	
	Explain your reasoning carefully.	[2 marks]
	Answer	

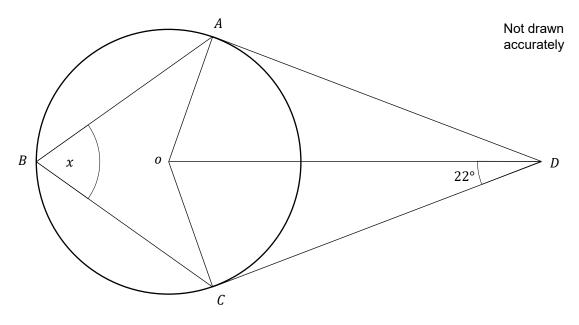
Points A, B, and C are all on the circumference of a circle. O represents the centre. Not drawn accurately Calculate the angle x, giving your reasoning for each step. [2 materials of the control of the circumference of a circle. Answer
Calculate the angle x , giving your reasoning for each step.
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Answer
Answer
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5 Points A, B, and C are all on the circumference of the circle. (Level 7)

0 represents the centre.

DA and DC are tangents to the circle.

Angle $CDO = 22^{\circ}$



Calculate the angle x, giving your reasoning for each step.

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Answer			



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6	Points A , B , C , and D are all on the circumference of the circle. Point X is the intersection between line AC and line DB	(Level 7)
	Angle $CXB = 110^{\circ}$	
	Angle $XAB = 22^{\circ}$	
	Angle $BCX = 23^{\circ}$	
	D 22° B	Not drawn accurately
6(a)	Calculate the angle <i>XBC</i>	
`,		[1 mark]
	Answer	
6(b)	Calculate the angle DAX	
	Give a reason for your answer.	
		[2 marks]
	Answer	_
	Turn over for next question	

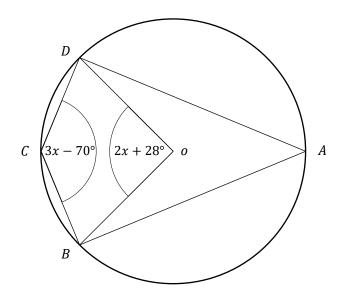
Points A, B, and C are all on the circumference of the circle.

(Level 8)

O represents the centre.

Angle DOB = 2x + 28

Angle DCB = 3x - 70



Not drawn accurately

Calculate the value of x.

[3 marks]

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8	Points A , B and C are on the circumference of a circle, with centre O . Points C , D and E lie on a tangent line. AB = AC	(Level 9)
	Not drawn accurately O 107° F C	
	Calculate angle CDO.	[5 marks]
	Answer End of Questions	

END