

90153



901530



NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA



For Supervisor's use only

Level 1 Mathematics, 2009

90153 Use geometric reasoning to solve problems

Credits: Two

9.30 am Friday 20 November 2009

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should answer ALL the questions in this booklet.

The questions in this paper are NOT in order of difficulty. Attempt all questions or you may not provide enough evidence to achieve the required standard.

If you need more space for any answer, use the page(s) provided at the back of this booklet and clearly number the question.

You should show ALL working.

Check that this booklet has pages 2–8 in the correct order and that none of these pages is blank.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

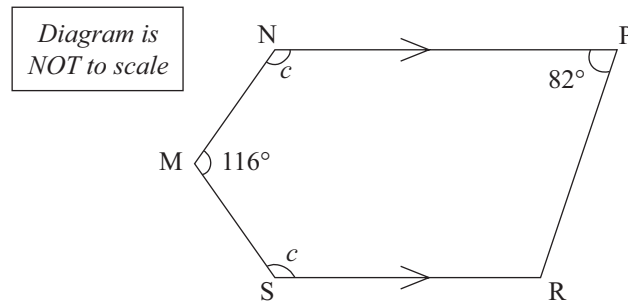
For Assessor's use only		Achievement Criteria	
Achievement		Achievement with Merit	Achievement with Excellence
Use geometric reasoning to solve problems.	<input type="checkbox"/>	Use, and state, geometric reasons in solving problems.	<input type="checkbox"/>
		Solve an extended geometrical problem.	<input type="checkbox"/>
Overall Level of Performance		<input type="checkbox"/>	

You are advised to spend 30 minutes answering the questions in this booklet.

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QUESTION ONE

(a)



MNPRS is a pentagon.

Calculate the size of angle c .

You must give a geometric reason for each step leading to your answer.

Working

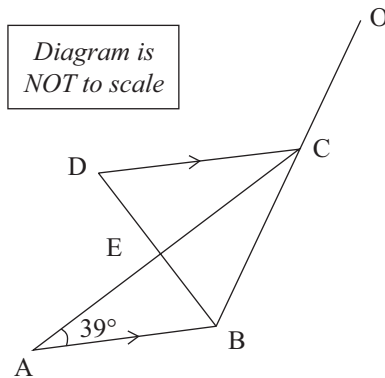
Reasoning

- You must give a geometric reason for each step leading to your answer.*

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

QUESTION TWO

(a)



AB is parallel to DC.

If angle $ACB = 21^\circ$, calculate the size of angle OCD .

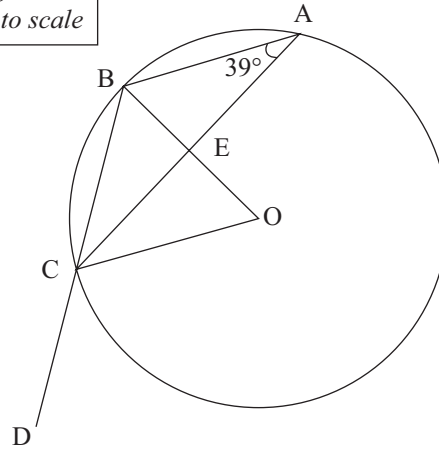
You must give a geometric reason for each step leading to your answer.

Working	Reasoning
<hr/>	<hr/>
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(b)

Diagram is
NOT to scale



O is the centre of the circle.

If angle $ACB = x^\circ$, find the size of angle OCA in terms of x .

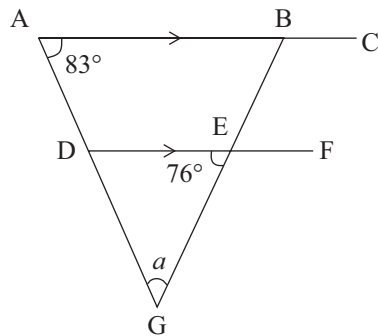
You must give a geometric reason for each step leading to your answer.

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QUESTION THREE

(a)

Diagram is
NOT to scale



Calculate the angle a .

You must give a geometric reason for each step leading to your answer.

Working

Reasoning

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Diagram is NOT to scale

You must give a geometric reason for each step leading to your answer.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

**Extra paper for continuation of answers if required.
Clearly number the question.**

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Question
number

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