M5

OCR
RECOGNISING ACHIEVEMENT

GENERAL CERTIFICATE OF SECONDARY EDUCATION

MATHEMATICS C (GRADUATED ASSESSMENT)
MODULE M5 – SECTION A

B275A

Candidate forename		Candidate surname	

Centre number						Candidate number				

MODIFIED LANGUAGE

INSTRUCTIONS TO CANDIDATES

*   Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
*   Use black ink. Pencil may be used for graphs and diagrams only.
*   Read each question carefully. Make sure you know what you have to do before starting your answer.
*   Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).
*   Show your working. Marks may be given for a correct method even if the answer is incorrect.
*   Answer **all** the questions.
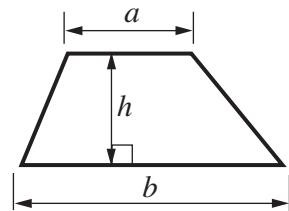*   Do **not** write in the bar codes.

INFORMATION FOR CANDIDATES

*   The number of marks is given in brackets **[ ]** at the end of each question or part question.
*   The total number of marks for this Section is **25**.
*   This document consists of **8** pages. Any blank pages are indicated.

WARNING

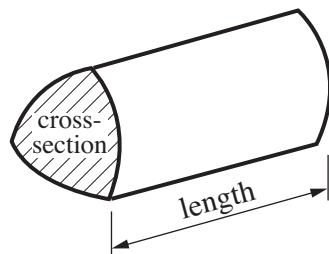**No calculator can be used for Section A of this paper**

OCR is an exempt Charity

Turn over
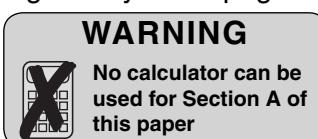
Formulae Sheet

Area of trapezium $= \frac{1}{2}(a + b)h$

Volume of prism = (area of cross-section) × length

PLEASE DO NOT WRITE ON THIS PAGE

1 Work out.

    (a) 6^2

                        (a) ....**[1]**

    (b) the cube of 4

                        (b) ....**[1]**

    (c) $2 \times {}^-5$

                        (c) ....**[1]**

    (d) ${}^-16 \div {}^-2$

                        (d) ....**[1]**

2 Which of these offers gives the better discount?
Explain how you decide.

            Offer A   **Offer B**

Save 15% off all purchases	$\frac{1}{4}$ off everything
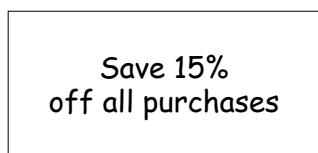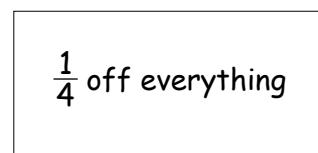
Offer .... because ....**[2]**
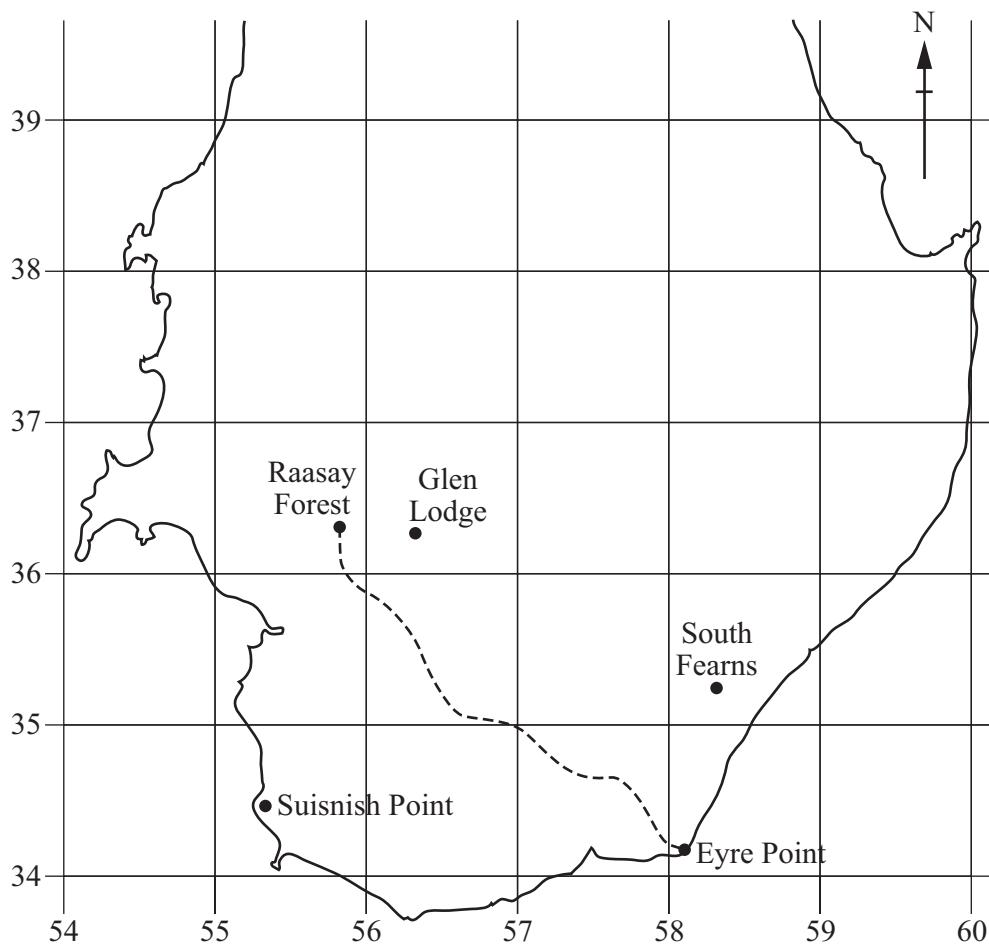
3 This map shows part of the Isle of Raasay.

Scale: 2 cm to 1 km

(a) Write down the four-figure grid reference of South Fearns.

(a) ....**[1]**

(b) Measure the bearing of Suisnish Point from Glen Lodge.

(b) ....° **[1]**

(c) Eva walks from Raasay Forest to Eyre Point along the footpath (- - -).
The scale of the map is 2 cm to 1 km.

Estimate the distance she walks.
Give your answer in kilometres.

(c) .... km **[2]**

4 Emily has a part-time job.
She is paid £8·95 per hour.
One week she works for 28 hours.

(a) Write down a calculation you can do in your head
to **estimate** Emily's total pay for the week.

.... = £ ....**[2]**

(b) Is your answer bigger or smaller than the exact answer?
Explain how you know.

Write Bigger or Smaller.

.... because ....**[1]**

5 Solve.

(a) $\frac{x}{5} = 2$

(a) ....**[1]**

(b) $2x + 5 = 13$

(b) ....**[2]**

Turn over

6 **(a)** Complete this table for $y = 2x - 3$.

x	0	2	4
y		1	

[1]

(b) Draw the graph of $y = 2x - 3$.
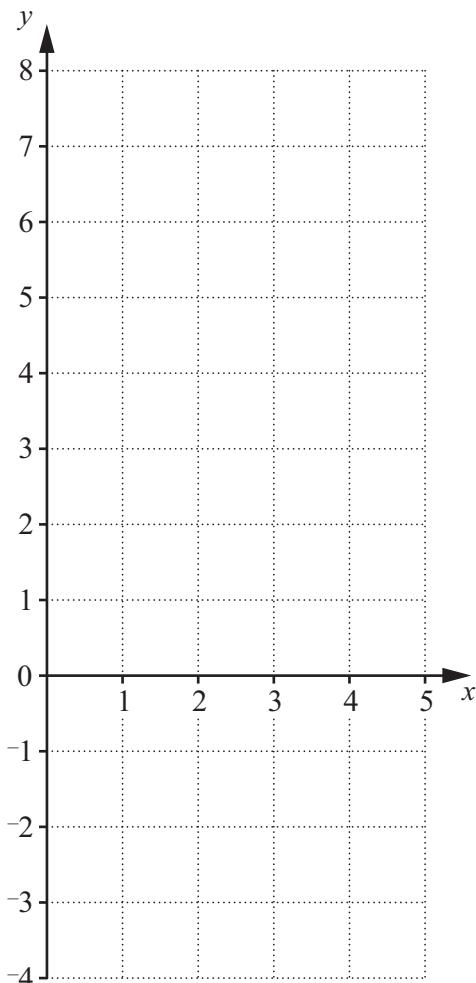
[2]

7 Karl runs football training sessions on Tuesday and Friday evenings.
He records the number of people attending the training sessions for a period of ten weeks.

  (a) Here are the numbers of people attending each Tuesday training session.

      18   25   19   15   27   13   22   23   24   15

    (i) Find the median.

                                                  (a)(i) ....**[2]**

    (ii) Find the range.

                                                  (ii) ....**[1]**

  (b) For the Friday training sessions:

        • the median attendance was 24,
        • the range of the attendances was 13.

    Karl says:

      The attendance on Fridays was more varied.

    Is he correct?
    Explain how you know.

Write Yes or No.

    .... because ....**[1]**

TURN OVER FOR QUESTION 8

8   Use ruler and compasses only in this question.
Leave in all your construction lines.

In the space below, construct an equilateral triangle with sides of 7 cm.
One side has been drawn for you.

[2]