

Monday 16 January 2012 – Morning

GCSE MATHEMATICS C (GRADUATED ASSESSMENT)

B276B MODULE M6 – SECTION B

Candidates answer on the Question Paper.

OCR supplied materials:
None

Other materials required:

- Geometrical instruments
- Tracing paper (optional)
- Scientific or graphical calculator

Duration: 30 minutes



Candidate forename		Candidate surname	
--------------------	--	-------------------	--

Centre number							Candidate number				
---------------	--	--	--	--	--	--	------------------	--	--	--	--

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. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Show your working. Marks may be given for a correct method even if the answer is incorrect.
- 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).
- Do **not** write in the bar codes.

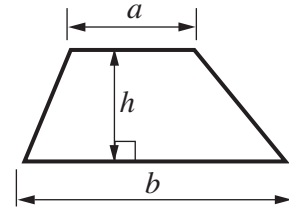
INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- Section B starts with question 7.
- You are expected to use a calculator in Section B of this paper.
- Use the π button on your calculator or take π to be 3.142 unless the question says otherwise.
- The total number of marks for this Section is **25**.
- This document consists of **8** pages. Any blank pages are indicated.

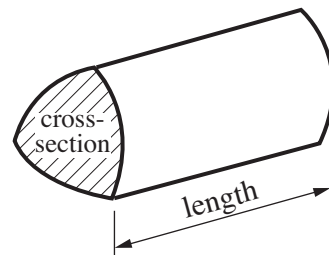
This paper has been pre modified for carrier language

Formulae Sheet

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



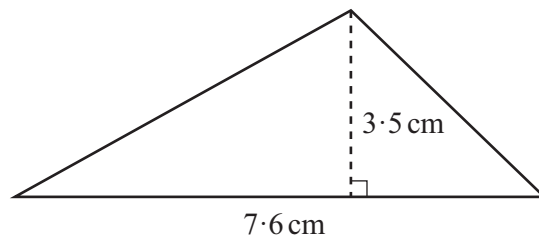
$$\text{Volume of prism} = (\text{area of cross-section}) \times \text{length}$$



PLEASE DO NOT WRITE ON THIS PAGE

3

- 7 Calculate the area of this triangle.
Give the units of your answer.



Not to scale

..... [3]

- 8 (a) Work out the value of $5x - 6$ when $x = 2$.

(a) [1]

- (b) Work out the value of $3y^2 + 2z$ when $y = 4$ and $z = -7$.

(b) [2]

- 9 (a) Ruth is planting bulbs.
She plants 150 tulips and 60 daffodils.

Write the ratio of tulips to daffodils.
Give your answer in its simplest form.

(a)..... : [2]

- (b) Sabrina has a bag of hyacinth bulbs which give flowers of five different colours.
She takes out a bulb at random.

The table shows the probability of getting the different colours.

Colour	Blue	Pink	White	Yellow	Red
Probability	0.4	0.15	0.25		0.18

Complete the table.

[2]

(c) This stem and leaf diagram shows the number of trees that a forester plants on 27 days.

2	1	3	5	6	6	9		
3	0	0	2	5	5	5	6	8
4	1	5	7					
5	3	8	9	9				
6	0	2	4					
7	1	5	9					

Key: 2 | 5 = 25 trees

Use the stem and leaf diagram to work out

(i) the median,

(c)(i) [1]

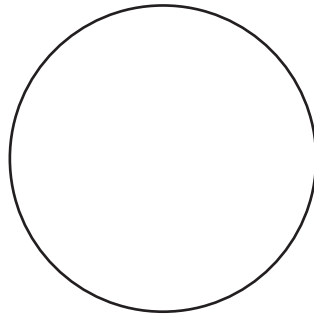
(ii) the mode,

(ii) [1]

(iii) the range.

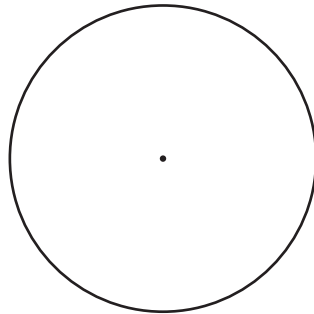
(iii) [1]

10 (a) (i) Draw a chord on this circle.



[1]

(ii) Draw and shade a sector on this circle.



[1]

(b) Calculate the circumference of a circle with radius of 4 cm.

(b) cm [2]

11 (a) Calculate 4^6 .

(a) [1]

(b) Write 5 hours 42 minutes in hours.

(b) hours [1]

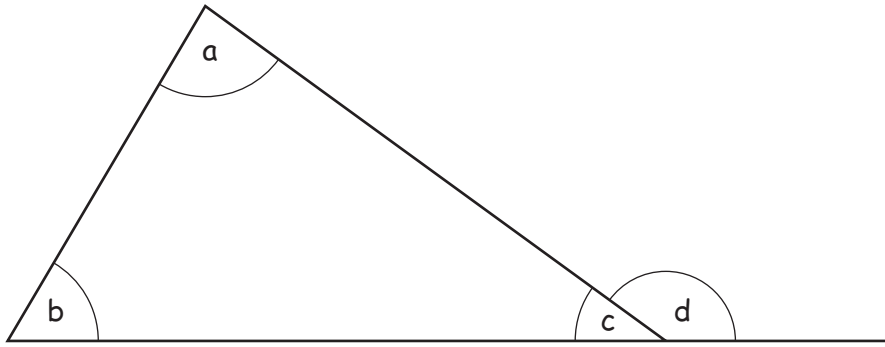
12 Solve.

$$8x - 10 = 2x + 11$$

..... [3]

TURN OVER FOR QUESTION 13

13 Look at the diagram below.



Complete the following proof.

$a + b + c = 180^\circ$ because

.....

$d + c = \dots\dots\dots^\circ$ because

.....

Therefore $a + b = d$.

[3]

Copyright Information

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download from our public website (www.ocr.org.uk) after the live examination series. If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact the Copyright Team, First Floor, 9 Hills Road, Cambridge CB2 1GE.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.