

GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS C (GRADUATED ASSESSMENT)
MODULE M6 – SECTION B

B276B

Candidates answer on the question paper

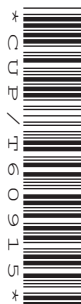
OCR Supplied Materials:
None

Other Materials Required:

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

Tuesday 20 January 2009
Morning

Duration: 30 minutes



Candidate Forename		Candidate Surname	
-----------------------	--	----------------------	--

Centre Number						Candidate Number				
---------------	--	--	--	--	--	------------------	--	--	--	--

INSTRUCTIONS TO CANDIDATES

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that 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.
- Answer **all** the questions.
- Do **not** write in the bar codes.
- Write your answer to each question in the space provided, however additional paper may be used if necessary.

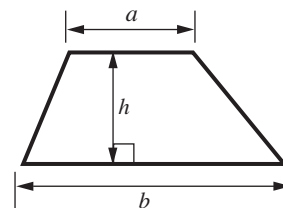
INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- Section B starts with question 6.
- 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 **12** pages. Any blank pages are indicated.

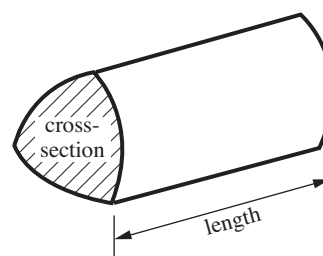
FOR EXAMINER'S USE	
SECTION B	

Formulae Sheet

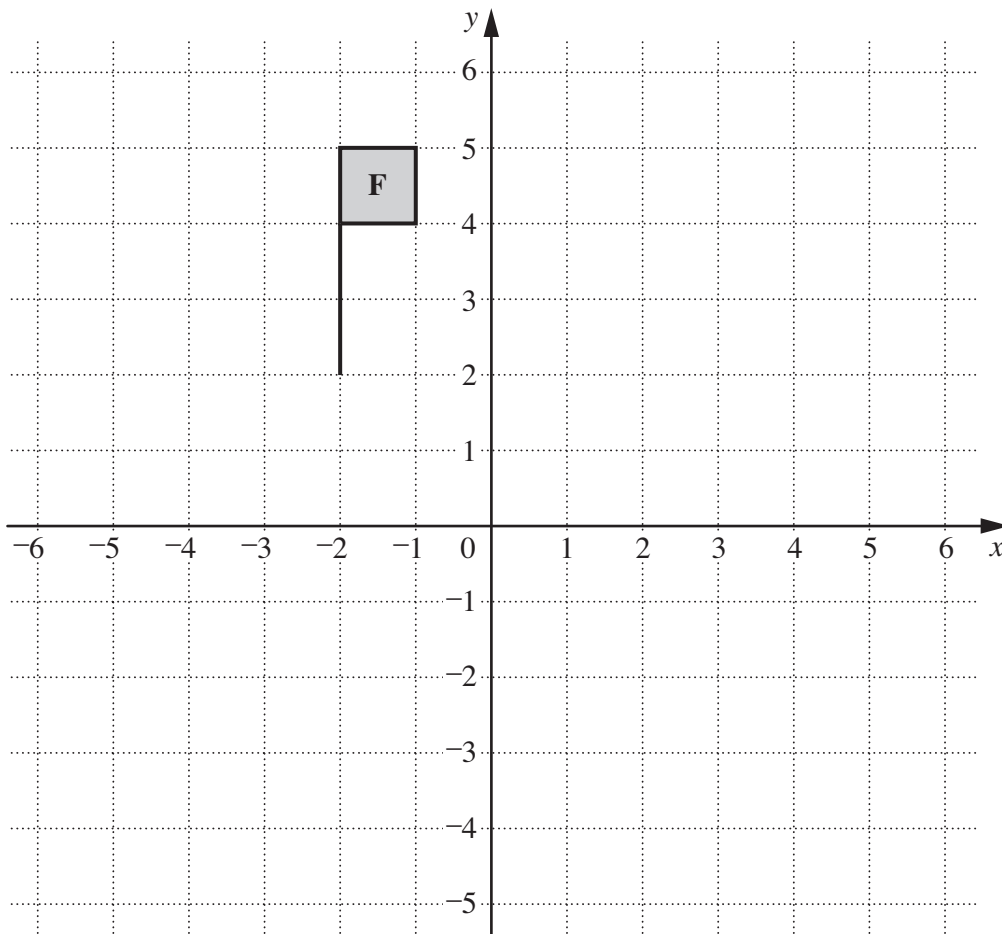
Area of trapezium = $\frac{1}{2}(a + b)h$



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



PLEASE DO NOT WRITE ON THIS PAGE



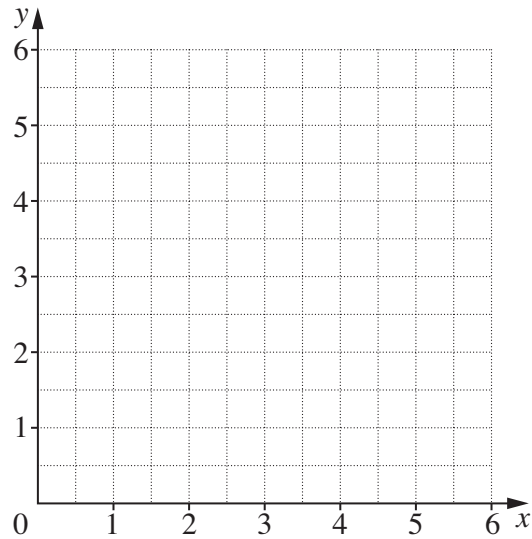
- (a) Reflect shape **F** in the y-axis.
Label the image **A**. [1]
- (b) Translate shape **F** four to the right and five down.
Label the image **B**. [1]

- 7 (a) Complete this table of values for $x + y = 5$.

x	0	2	4
y		3	

[1]

- (b) Draw the graph of $x + y = 5$.



[2]

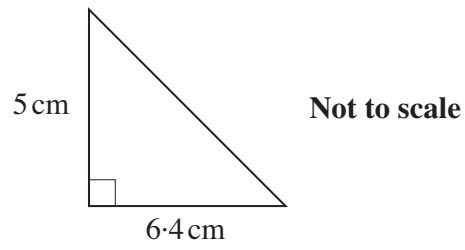
- (c) On the grid, draw the line $y = 4$.

[1]

- (d) Write down the coordinates of the point where your two lines cross.

(d) (..... ,) [1]

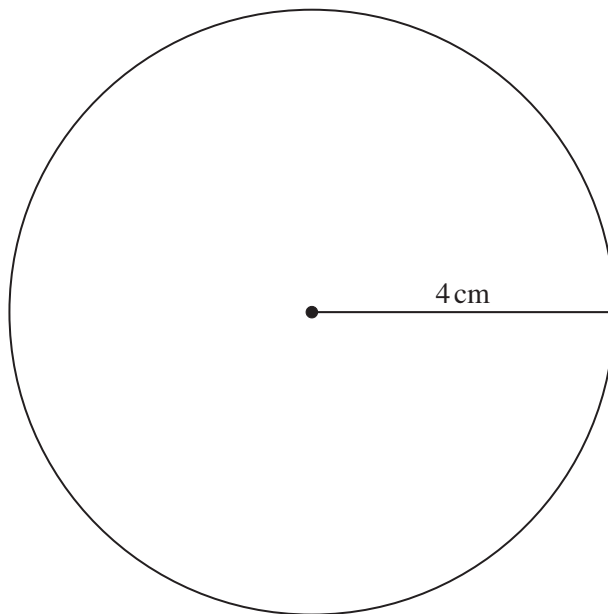
- 8 (a) Calculate the area of this triangle.



(a) cm^2 [2]

- (b) The radius of this circle is 4 cm.

Calculate the area of the circle.



(b) cm^2 [2]

Turn over

9 Here are three expression cards.

A

$$3x^2 + 10$$

B

$$10x + 5$$

C

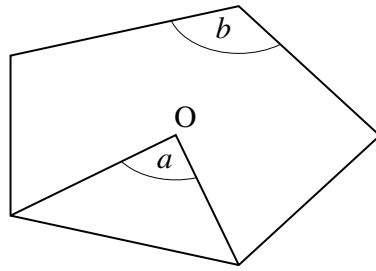
$$4x^3 - 7$$

Two of these cards give the same answer for $x = 2$.

Which card gives a **different** answer to the other two?
Show clearly how you decide.

Card gives a different answer. [3]

- 10 This is a sketch of a regular pentagon with centre O.



Not to scale

- (a) Work out angle a .

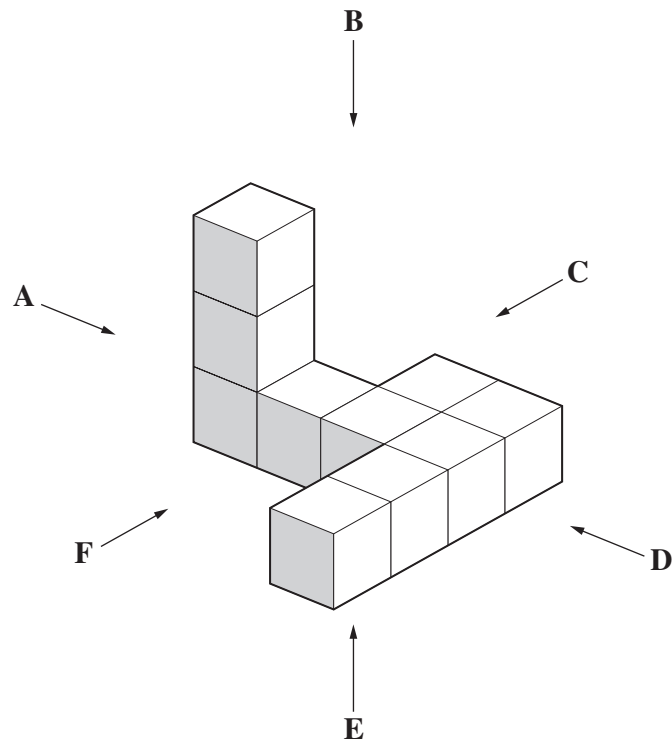
(a) $^{\circ}$ [2]

- (b) Work out angle b .

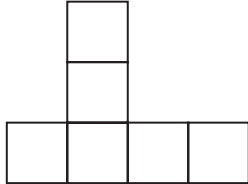
(b) $^{\circ}$ [2]

8

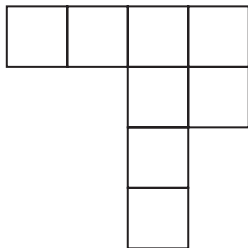
11 Look at this shape.



Complete these sentences.



This view is from arrow



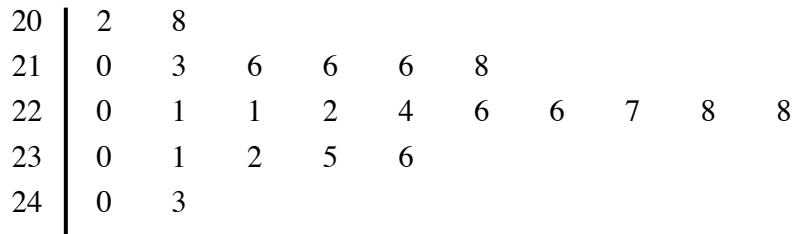
This view is from arrow

[2]

- 12 Colin counts the number of matches in 25 boxes of **Striker** matches.



The results are shown in this stem and leaf diagram.



Key: 24 | 3 = 243

- (a) For this information, write down

(i) the median,

(a)(i) [1]

(ii) the range.

(ii) [1]

- (b) On each box it states:

Average contents 220 matches.

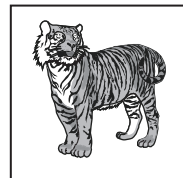
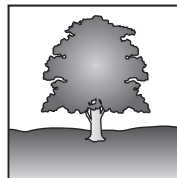
Using the information in (a), write one comment about the accuracy of this statement.

.....

.....

..... [1]

- (c) On each box of matches there is one of these four pictures.



The table shows the probability that a box, chosen at random, has a particular picture on it.

picture	yacht	flame	tree	tiger
probability	0.43	0.21		0.26

Complete the table.

[2]

PLEASE DO NOT WRITE ON THIS PAGE

PLEASE DO NOT WRITE ON THIS PAGE

PLEASE DO NOT WRITE ON THIS PAGE