



M2

**GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS C (GRADUATED ASSESSMENT)
MODULE M2 – SECTION A**

B272A



Candidates answer on the question paper.

OCR supplied materials:
None

Other materials required:

- Geometrical instruments
- Tracing paper (optional)

**Tuesday 1 March 2011
Morning**

Duration: 30 minutes



Candidate forename		Candidate surname	
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Centre number						Candidate number				
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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

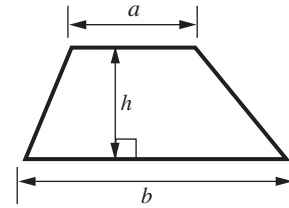
- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this Section is **25**.
- This document consists of **8** pages. Any blank pages are indicated.

WARNING

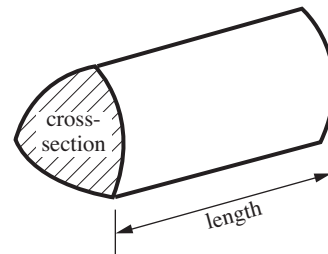
No calculator can be used for Section A of this paper

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

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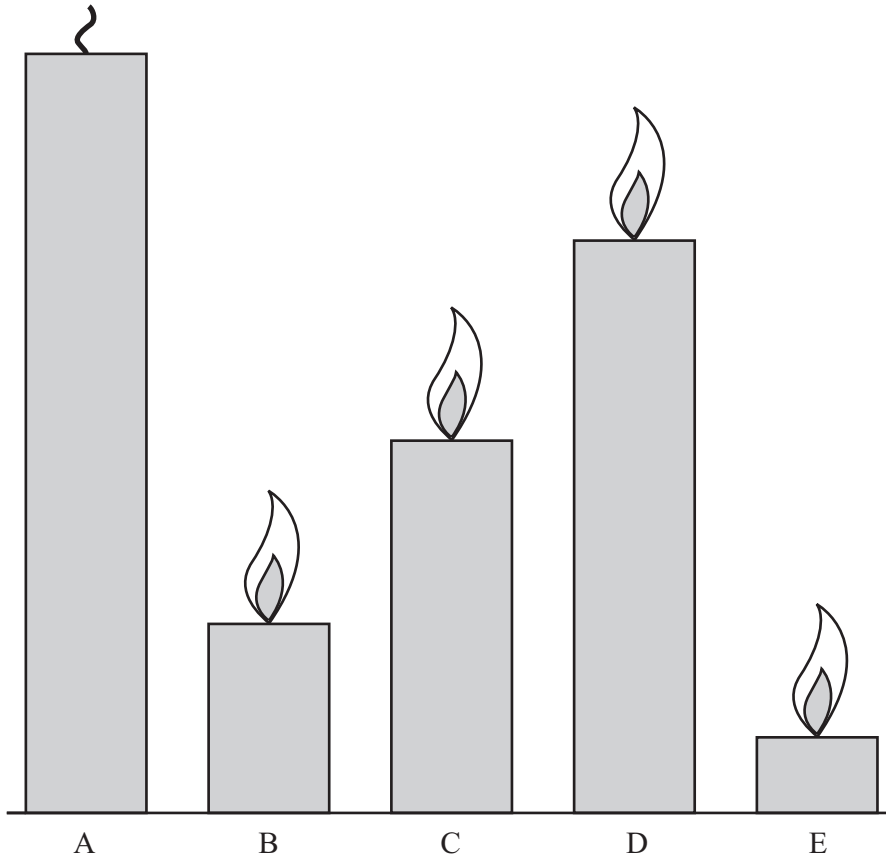
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- 1 Here are 5 candles which all started with the same height. Candle A has not been lit.



Which candle has

0.5 left,

75% left,

0.25 left,

0.1 left?

[3]

- 2 (a) Use this information about 20p, 50p and £1 coins to answer the questions below.

Coin	Weight (g)	Thickness (mm)	Diameter (mm)
20p	5	1.7	21.4
50p	8	1.78	27.3
£1	9.5	3.15	22.5



- (i) How much heavier is a £1 coin than a 50p coin?

(a)(i) g [2]

- (ii) How much thicker is a £1 coin than a 50p coin?

(ii) mm [2]

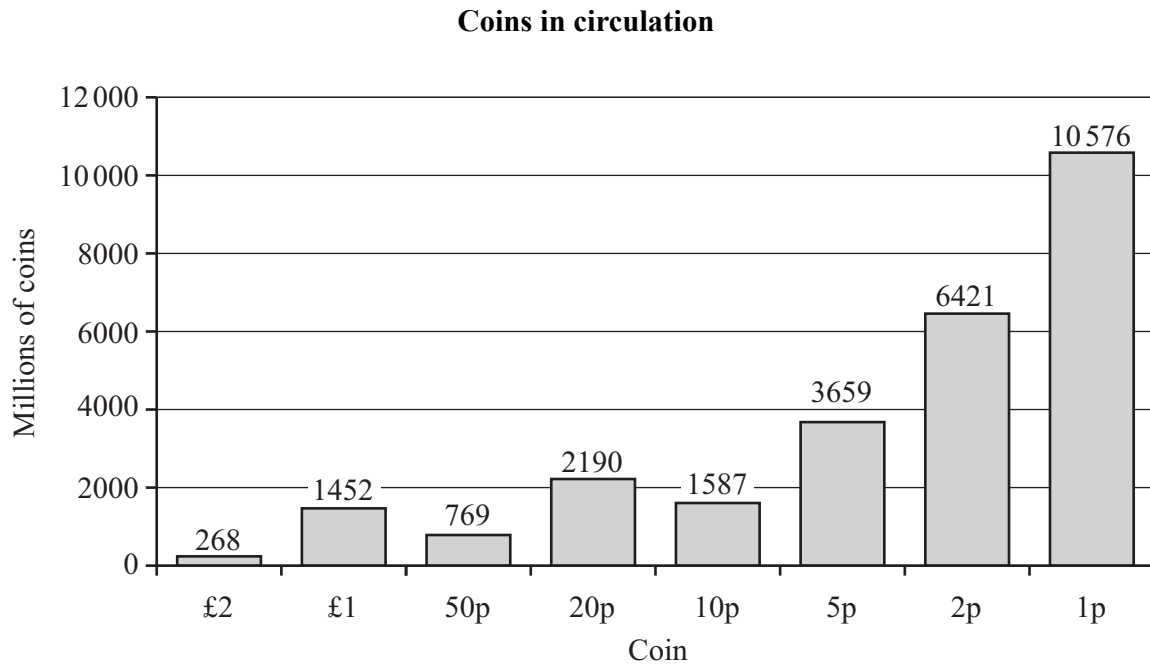
- (iii) How many **kilograms** will thirty 20p coins weigh?

(iii) kg [2]

- (iv) Which is worth more, 80 g of 20p coins or 80 g of 50p coins?
Show the calculations you used to get your answer.

..... [4]

- (b) This chart shows the number of different UK coins, in millions, in circulation at the end of 2007.



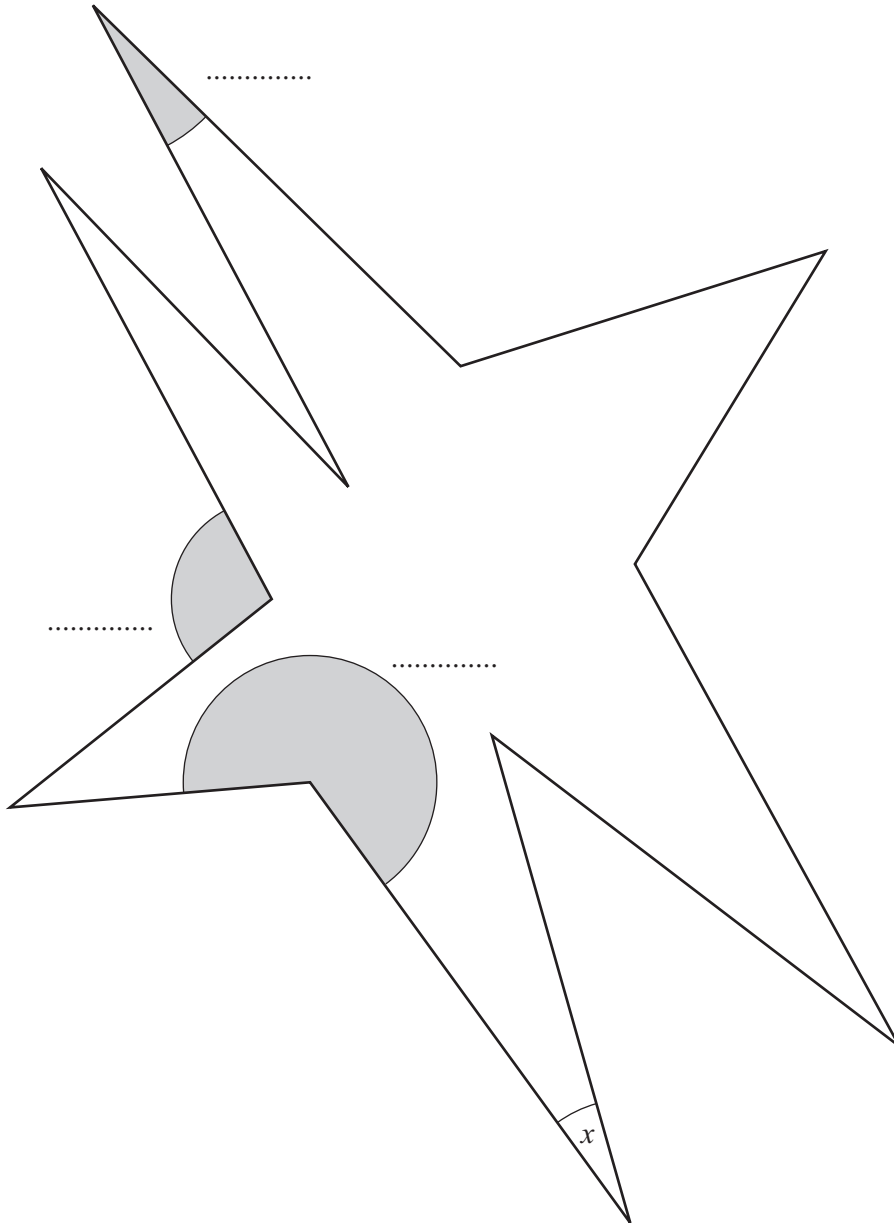
Use the chart to complete these sentences.

- (i) There were million £2 coins in circulation. [1]
- (ii) These £2 coins were worth a total of £ million. [1]
- (iii) The coin had the greatest number of coins in circulation. [1]

3 (a) (i) Here is a star shape.

Label the shaded angles:

A for Acute
O for Obtuse
R for Reflex



[2]

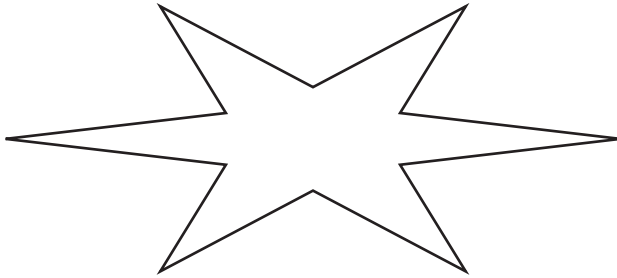
(ii) Measure the size of the angle marked x .

(a)(ii)^o [1]

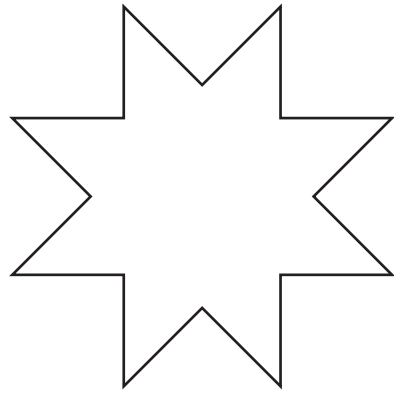
(b) Here are four star shapes.

Put a tick (✓) under any that **have** reflection symmetry.

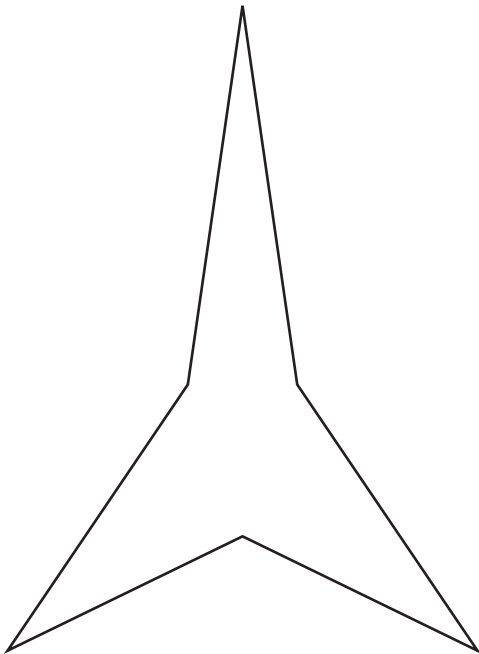
Put a cross (✗) under any that **do not have** reflection symmetry.



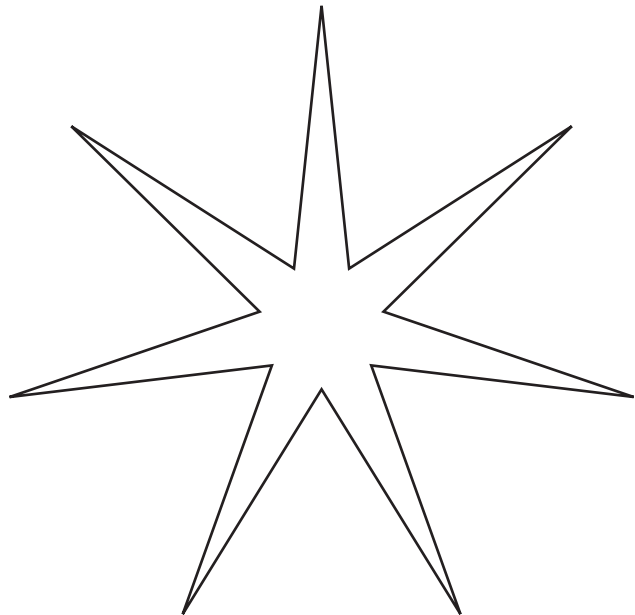
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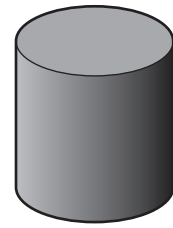
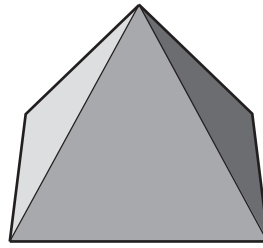
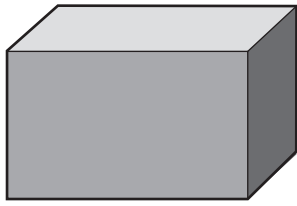


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[3]

TURN OVER FOR QUESTION 4

4 Here are three solids.

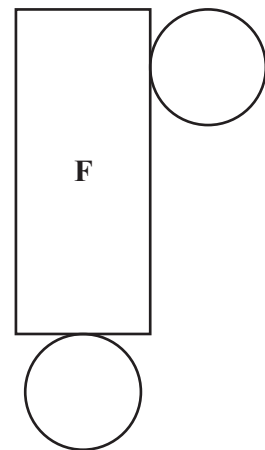
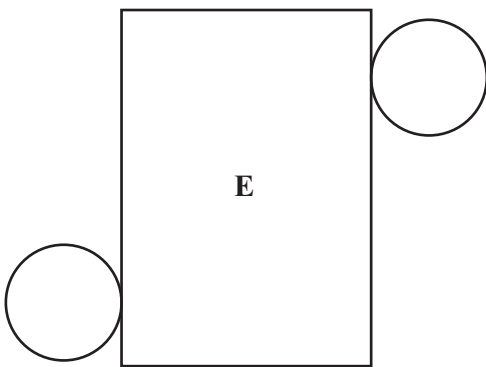
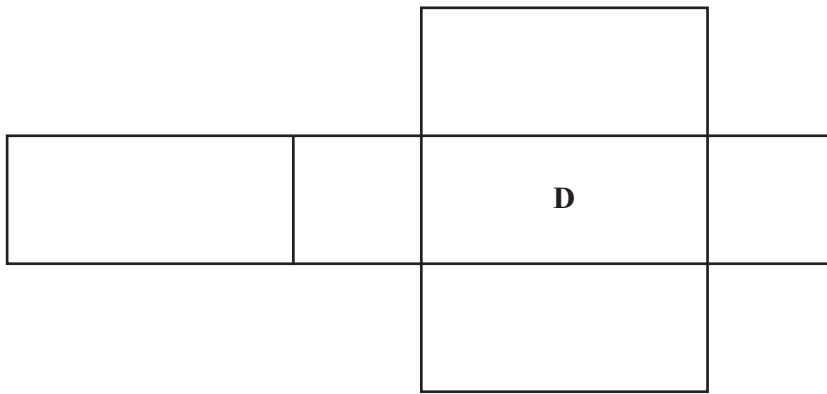
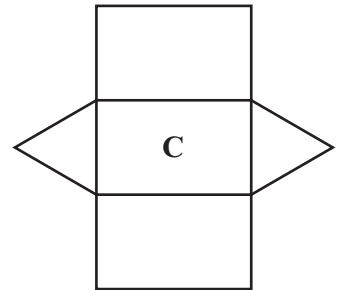
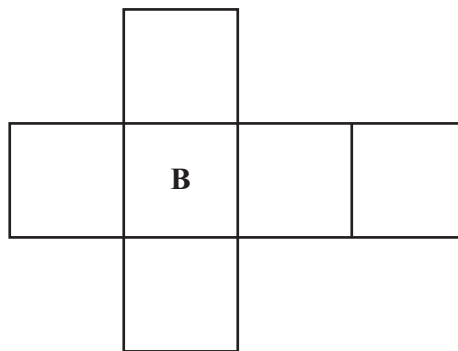
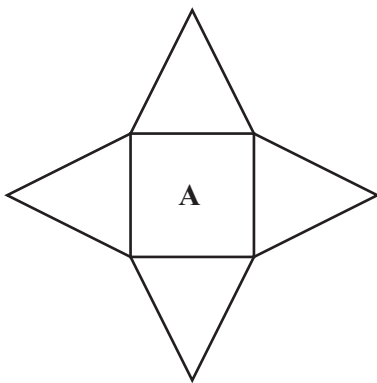


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Write under each solid the letter for its net.
Choose from these diagrams.



[3]