

GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS C (GRADUATED ASSESSMENT)
MODULE M3 – SECTION A

B273A

Candidates answer on the Question Paper

OCR Supplied Materials:
None

Other Materials Required:

- Geometrical instruments
- Tracing paper (optional)

Monday 8 March 2010
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 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.
- The total number of marks for this Section is **25**.
- This document consists of **12** pages. Any blank pages are indicated.

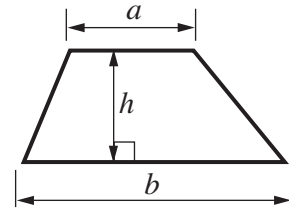
WARNING



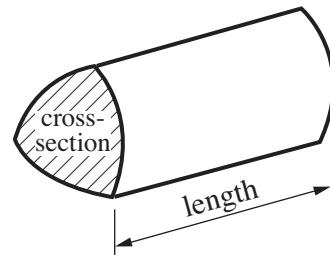
No calculator can be used for Section A of this paper

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

1 Work out.

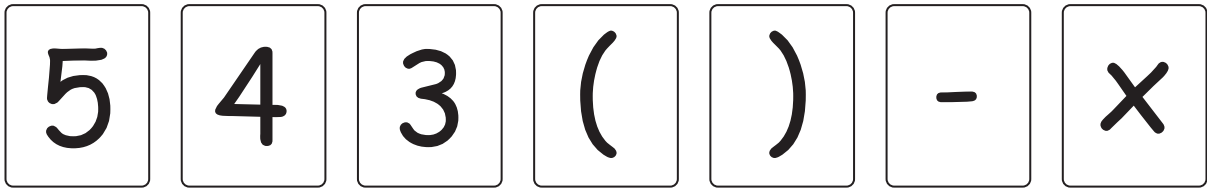
(a) 13.56×10

(a) [1]

(b) $24.9 \div 100$

(b) [1]

2 Kerry has these cards.

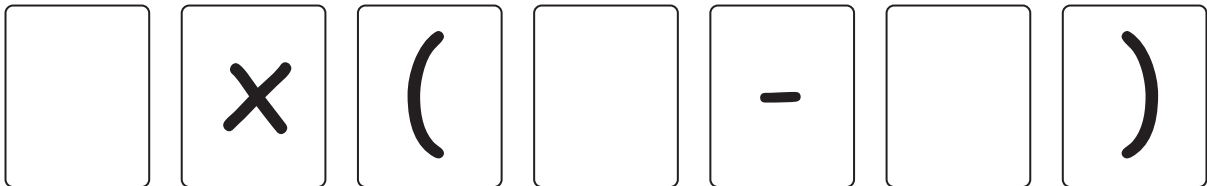


(a) What is the answer when Kerry arranges the cards like this?



(a) [1]

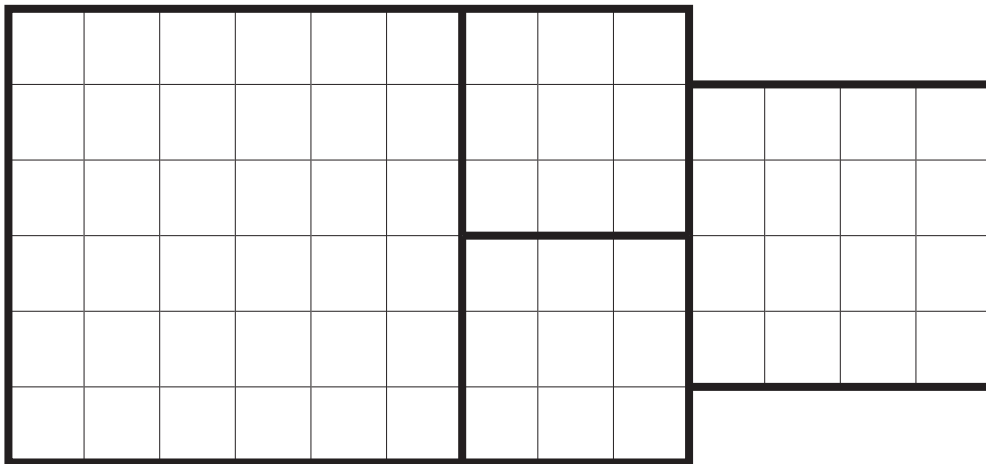
(b) Kerry rearranges the number cards so that the answer is 5.



Complete her new arrangement.

[1]

3 Here is a drawing of a shape made using 4 large squares
There are 70 small squares altogether.



(a) Find.

(i) 6^2

(a)(i)..... [1]

(ii) the square root of 16

(ii) [1]

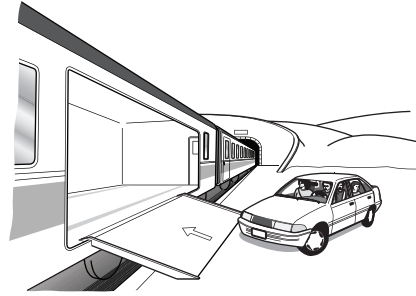
(b) Shade in 10% of the 70 small squares in the whole shape.

[1]

4 Carla is going to France with three friends for a holiday.

(a) Here is some information about the Channel Tunnel trains.

Check-In at least 30 minutes before departure.
Folkestone to Calais | **Sunday 14 March 2010**
Departure (local time) **08:20 08:50**



They go on the 08:20 train.

(i) What is the latest time they could check in?

(a)(i) [1]

(ii) The train takes 45 minutes to complete the journey to Calais.
The time in Calais is **1 hour ahead** of the time in the UK.

What is the time in Calais when their train arrives?

(ii) [2]

- (b) The total fare for the 4 friends is £96.
They share the cost equally.

How much is Carla's share?

(b) £ [2]

5 Garry uses these ingredients to make a smoothie drink.

$\frac{1}{2}$ small mango 1 banana 1 scoop vanilla ice cream 10g white sugar 0.3g ground cinnamon $\frac{1}{2}$ teaspoon ground nutmeg 475ml milk

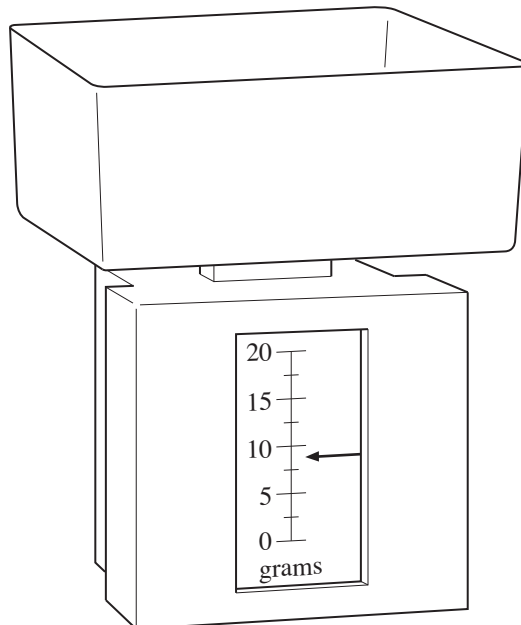
(a) Garry has 1 litre of milk.

How much milk is left after he makes the smoothie?

(a) ml [2]

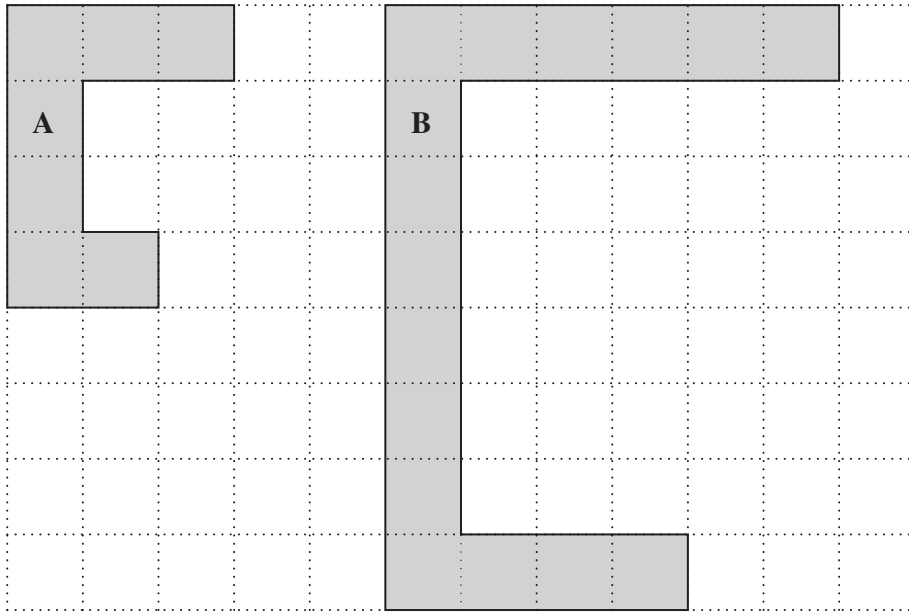
(b) Garry pours some sugar into the pan of his scales.

Estimate how much more sugar he needs to make the smoothie.



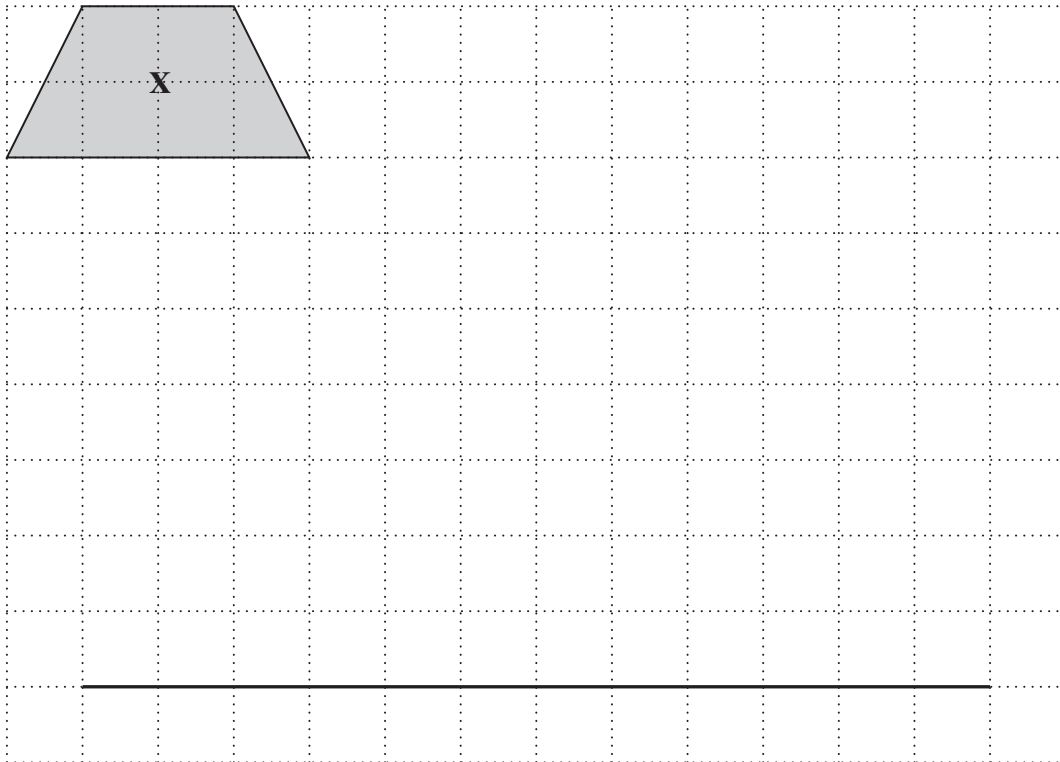
(b) g [1]

- 6 (a) Why is shape **B** not an enlargement of shape **A**?



.....
 [1]

- (b) Draw an enlargement of shape **X** using a scale factor of 3.
 One line has been drawn for you.



[2]

7 Anan is playing “Higher and Lower” with these five cards.



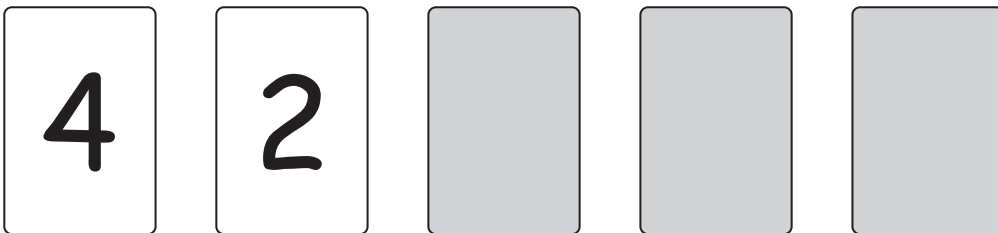
- (a) Anan shuffles the cards and places them face down.
 He turns over the first four cards.
 He has to guess if the next card is Higher or Lower than the last one.



What is the probability that the final card is Higher than 2?

(a) [1]

- (b) Anan picks up the cards and shuffles them again.
 He places the cards face down and turns over the first two cards.



What is the probability that the next card is Higher than 2?

(b) [2]

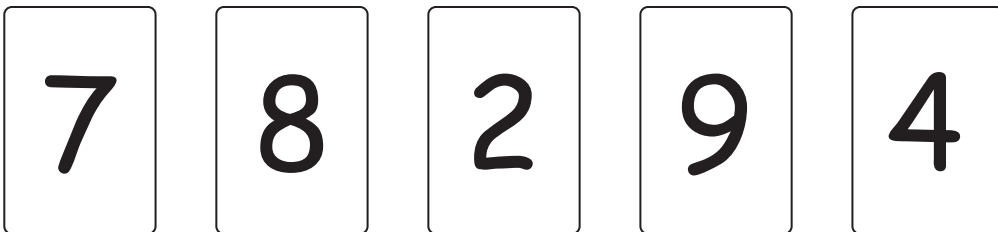
(c) Clive puts out these cards.



(i) What is the mean of the numbers on these cards?

(c)(i) [3]

(ii) Clive shuffles the cards and puts them out again.



What can you say about the mean of the numbers in this new arrangement of the cards?

.....

..... [1]

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