

Wednesday 11 January 2012 – Morning

GCSE MATHEMATICS B (MEI)

B291B Paper 1 Section B (Foundation Tier)

Candidates answer on the Question Paper.

OCR supplied materials:
None

- Other materials required:**
- Geometrical instruments
 - Scientific or graphical calculator
 - Tracing paper (optional)

Duration: 45 minutes



Candidate forename		Candidate surname	
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Centre number						Candidate number				
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INSTRUCTIONS TO CANDIDATES

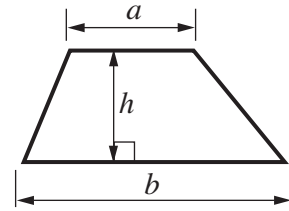
- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions.
- Read each question carefully. Make sure you know what you have to do before starting 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

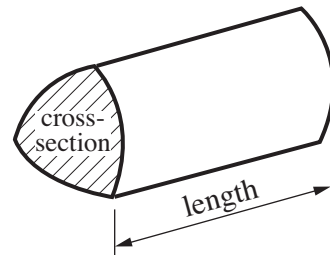
- The number of marks is given in brackets [] at the end of each question or part question.
- Section B starts with question 10.
- You are expected to use a calculator in Section B of this paper.
- Use the π button on your calculator or take π to be 3.142 unless the question says otherwise.
- The total number of marks for this Section is **36**.
- This document consists of **8** pages. Any blank pages are indicated.

Formulae Sheet: Foundation Tier

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**

10 (a) (i) Write down a multiple of 12.

(a)(i) [1]

(ii) Write down a factor of 10.

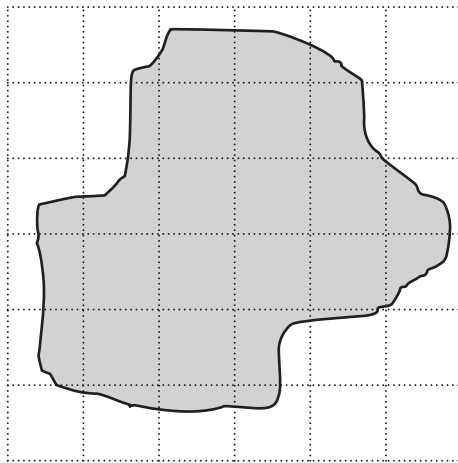
(ii) [1]

(b) In the number 3742, what is the value of the 7?

(b) [1]

11 The diagram shows an irregular shaped damp patch on some carpet tiles. The carpet tiles are one metre squares.

Estimate the area of the patch.



..... m² [2]

- 12 At an ice dancing competition, nine judges each give a score. These are Courtney's scores for her dance.

3 4 5 1 6 5 3 6 4

- (a) What is the range of Courtney's scores?

(a) [1]

- (b) What is the median of Courtney's scores?

(b) [2]

- (c) Work out the mean of Courtney's scores.
Give your answer correct to 1 decimal place.

(c) [3]

- 13 (a) Solve these equations.

(i) $3a = 12$

(a)(i) [1]

(ii) $6 + c = 9$

(ii) [1]

- (b) Find the value of each of these expressions when $m = 3$ and $n = 2$.

(i) $5m + 4n$

(b)(i) [2]

(ii) $6n - m$

(ii) [2]

14 (a) Use your calculator to work these out.

(i) 3.7^2

(a)(i) [1]

(ii) $\sqrt{2.89}$

(ii) [1]

(b) One winter night, temperatures in the UK ranged from -18°C to -3°C .

Calculate the difference between these temperatures.

(b) $^\circ\text{C}$ [1]

(c) Alan is putting edging between a lawn and a path.
He needs 40 m of edging.
Lawn edging is sold in sections which are 1.8 m long.

(i) How many sections does Alan need to buy?

(c)(i) [2]

(ii) What length of lawn edging will be left over?

(ii) m [1]

15 Ahmed, A, Bassam, B, and Chris, C, are playing a game.
There is just one winner of each game.

Complete the table of all the possible outcomes when they play two games.
You may not need all the spaces.

Winner of first game	A									
Winner of second game	A									

[2]

- 16 Gary spends £60 buying six presents.
He buys four DVDs at £12.95 each and two identical books.

How much does each book cost?

£ [3]

- 17 Billie asks her friends how many books they took to read on holiday.
Her results are summarised in the table.

Number of books	0	1	2	3	4	5
Frequency	2	4	4	5	2	1

How many books altogether did Billie's friends take on holiday?

..... [2]

- 18** Katie has a six-sided die, with numbers 1 to 6 on the faces, which she suspects is biased. She throws the die a large number of times to estimate the probability of getting each number. She shows her results in this table.

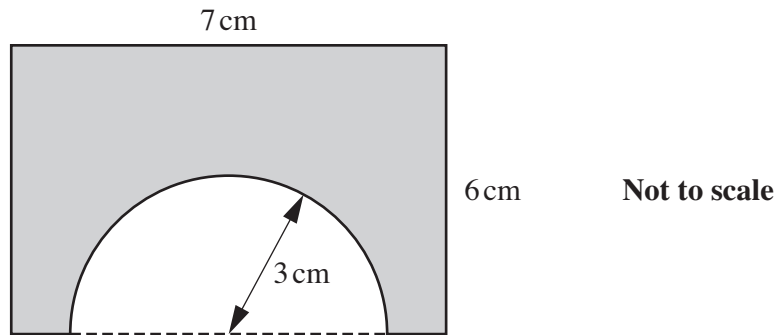
Number	1	2	3	4	5	6
Probability	0.12	0.15	0.12	0.14	0.16	

Complete the table.

[2]

TURN OVER FOR QUESTION 19

- 19 A rectangular piece of card is 7 cm long and 6 cm wide.
A semicircle of radius 3 cm is cut from the card.



Calculate the area of card that remains.

..... cm² [4]

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