

Write your name here

Surname

Other Names

Mathematics

June 2017 Paper 2 (Calculator Allowed)

Part 2 (Second half of the paper)

Edexcel Foundation Tier

Time: 45 minutes

Q	Topic	Max Mark	My Marks
14	Factorising	3	
15	Standard Form	3	
16	Loci and Construction	3	
17	Probability and Relative Frequency	3	
18	Sharing Ratio, Fraction/Percentage of Amount	5	
19	Plans and Elevations	4	
20	Compound Measures, Speed	5	
21	Similar Shapes	4	
22	Compound Interest and Depreciation	3	
23	Error intervals	2	
24	Solving Quadratics (by Factorising)	3	
25	Sequences (The Nth Term)	3	
	Total	41	

For worked solutions and video solutions visit mathsgenie.co.uk

14 (a) Factorise $5 - 10m$

.....
(1)

(b) Factorise fully $2a^2b + 6ab^2$

.....
(2)

(Total for Question 14 is 3 marks)

15 (a) Write 4.7×10^{-1} as an ordinary number.

.....
(1)

(b) Work out the value of $(2.4 \times 10^3) \times (9.5 \times 10^5)$
Give your answer in standard form.

.....
(2)

(Total for Question 15 is 3 marks)

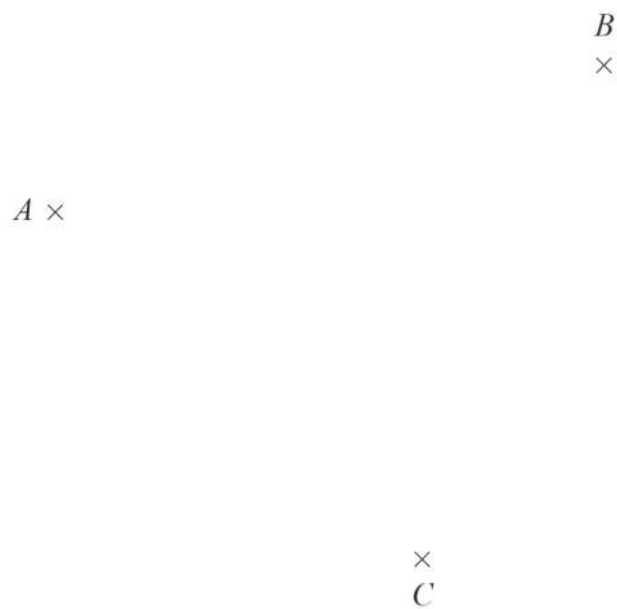


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16 A , B and C are three points on a map.



1 cm represents 100 metres.

Point T is 250 metres from point A .

Point T is equidistant from point B and point C .

On the map, show one of the possible positions for point T .

(Total for Question 16 is 3 marks)



17 The table shows the probabilities that a biased dice will land on 2, on 3, on 4, on 5 and on 6

Number on dice	1	2	3	4	5	6
Probability		0.17	0.18	0.09	0.15	0.1

Neymar rolls the biased dice 200 times.

Work out an estimate for the total number of times the dice will land on 1 or on 3

(Total for Question 17 is 3 marks)



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18 On Saturday, some adults and some children were in a theatre.
The ratio of the number of adults to the number of children was 5 : 2

Each person had a seat in the Circle or had a seat in the Stalls.

$\frac{3}{4}$ of the children had seats in the Stalls.

117 children had seats in the Circle.

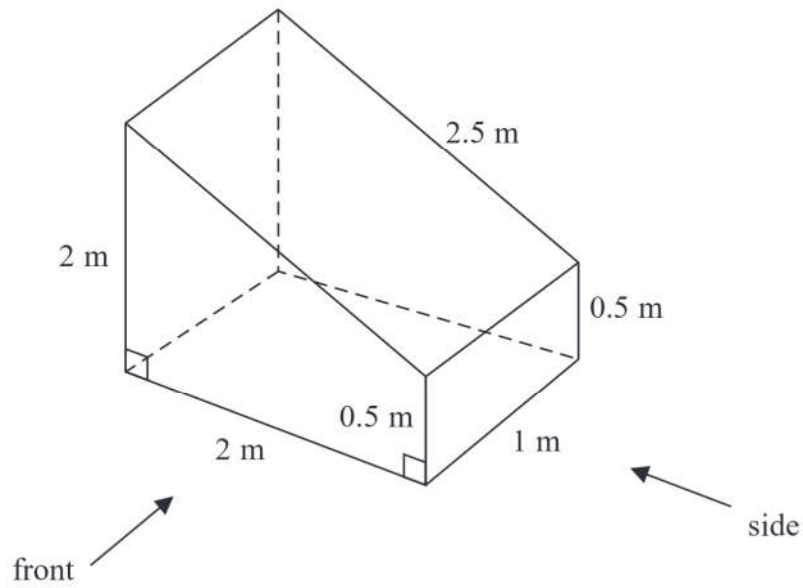
There are exactly 2600 seats in the theatre.

On this Saturday, were there people on more than 60% of the seats?
You must show how you get your answer.

(Total for Question 18 is 5 marks)



19 The diagram shows a prism with a cross section in the shape of a trapezium.



On the centimetre grid below, draw the front elevation and the side elevation of the prism. Use a scale of 2 cm to 1 m.



(Total for Question 19 is 4 marks)



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20 Olly drove 56 km from Liverpool to Manchester.
He then drove 61 km from Manchester to Sheffield.

Olly's average speed from Liverpool to Manchester was 70 km/h.
Olly took 75 minutes to drive from Manchester to Sheffield.

(a) Work out Olly's average speed for his total drive from Liverpool to Sheffield.

..... km/h
(4)

Janie drove from Barnsley to York.

Janie's average speed from Barnsley to Leeds was 80 km/h.
Her average speed from Leeds to York was 60 km/h.

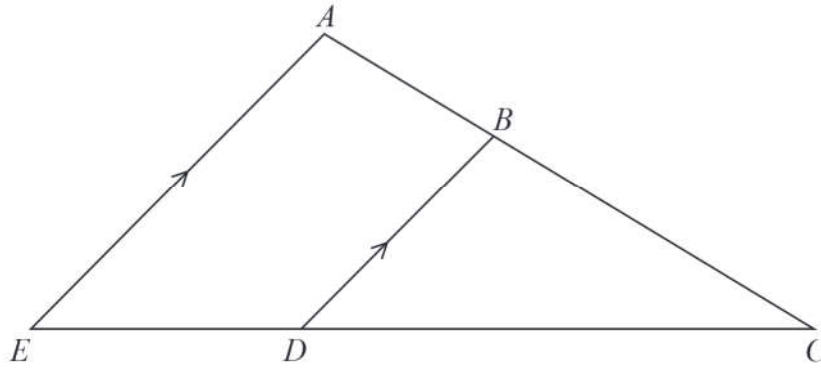
Janie says that the average speed from Barnsley to York can be found by working out the mean of 80 km/h and 60 km/h.

(b) If Janie is correct, what does this tell you about the two parts of Janie's journey?

.....
.....
(1)

(Total for Question 20 is 5 marks)





ABC and EDC are straight lines.
 EA is parallel to DB .

- $EC = 8.1$ cm.
- $DC = 5.4$ cm.
- $DB = 2.6$ cm.

(a) Work out the length of AE .

..... cm
 (2)

$AC = 6.15$ cm.

(b) Work out the length of AB .

..... cm
 (2)

(Total for Question 21 is 4 marks)



22 Anil wants to invest £25 000 for 3 years in a bank.

Personal Bank
Compound Interest
2% for each year

Secure Bank
Compound Interest
4.3% for the first year
0.9% for each extra year

Which bank will give Anil the most interest at the end of 3 years?
You must show all your working.

(Total for Question 22 is 3 marks)

23 A number, n , is rounded to 2 decimal places.
The result is 4.76

Using inequalities, write down the error interval for n .

(Total for Question 23 is 2 marks)



24 Solve $x^2 + 5x - 24 = 0$

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(Total for Question 24 is 3 marks)

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25 Here are the first six terms of an arithmetic sequence.

3 8 13 18 23 28

(a) Find an expression, in terms of n , for the n th term of this sequence.

.....
(2)

The n th term of a different sequence is $3n^2$
Nathan says that the 4th term of this sequence is 144

(b) Is Nathan right?
Show how you get your answer.

(1)

(Total for Question 25 is 3 marks)

TOTAL FOR PAPER IS 80 MARKS

