

Write your name here	
Surname	Other names
Centre Number	Candidate Number
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<b>Edexcel GCSE</b>	
<b>Mathematics B</b>	
<b>Unit 1: Statistics and Probability (Calculator)</b>	
<b>Foundation Tier</b>	
Tuesday 9 November 2010 – Morning <b>Time: 1 hour 15 minutes</b>	Paper Reference <b>5MB1F/01</b>
<b>You must have:</b> Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.	Total Marks

### Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- **Calculators may be used.**
- If your calculator does not have a  $\pi$  button, take the value of  $\pi$  to be 3.142 unless the question instructs otherwise.



### Information

- The total mark for this paper is 60.
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (\*) are ones where the quality of your written communication will be assessed – *you should take particular care with your spelling, punctuation and grammar, as well as the clarity of expression, on these questions.*

### Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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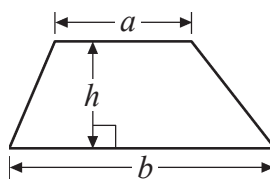
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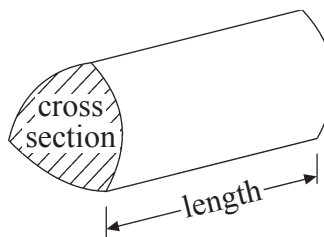
Formulae: Foundation Tier

**You must not write on this formulae page.  
Anything you write on this formulae page will gain NO credit.**

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



**Volume of prism** = area of cross section  $\times$  length







Answer ALL questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

- 1 Here is a pictogram.  
It shows the number of goals scored by Azeem, by Brad and by Chris.

Azeem	
Brad	
Chris	
Dean	

**Key**  
 represents 4 goals

- (a) Write down the number of goals scored by Brad.

.....  
(1)

- (b) Write down the number of goals scored by Chris.

.....  
(1)

Dean scored 6 goals.

- (c) Show this information on the pictogram.

(1)

(Total for Question 1 is 3 marks)



2 The table gives information about the prices and the features of five mobile phones.

The ticks (✓) in the table show the features of each phone.

Mobile phone	Price	Feature			
		Camera	MP3	FM Radio	Video
Astra	£24.97	✓			
Crystal	£24.97	✓			✓
Pixar	£39.97	✓	✓	✓	
Spark	£34.23	✓		✓	✓
Tacco	£34.97	✓	✓	✓	✓

(a) Which of the five mobile phones is the most expensive?

.....  
(1)

(b) Which of the mobile phones have MP3?

.....  
(1)

(c) Which mobile phone has Video but **not** FM Radio?

.....  
(1)



Mirza has a monthly plan for his mobile phone.  
Each month, he pays a total of £9.79 plus the cost of any extra minutes.

**Monthly Plan**

For **£9.79** per month you get:  
100 minutes and unlimited texts.  
Extra minutes: 24.5p each

Last month, Mirza used 112 minutes.

(d) Work out how much he paid in total last month.

£ .....  
(4)

(Total for Question 2 is 7 marks)



- 3 Lynn lives in Baston.  
 She is going to go to the cinema in Peterborough.  
 She will travel by bus between Baston and Peterborough.

Here is part of the bus timetable from Bourne to Peterborough and from Peterborough to Bourne.

Bourne to Peterborough							
Bourne	15 00	15 30	16 00	16 30	17 00	17 30	18 30
Baston	15 12	15 42	16 12	16 42	17 12	17 42	18 42
Market Deeping	15 20	16 00	16 20	17 00	17 20	18 00	18 50
Northborough	15 24	16 04	16 24	17 04	17 24	18 04	18 54
Glington	15 28	16 08	16 28	17 08	17 28	18 08	18 58
Peterborough	15 40	16 20	16 40	17 20	17 40	18 20	19 10

Peterborough to Bourne							
Peterborough	17 30	17 45	18 00	18 30	19 30	20 15	21 45
Glington	17 42	17 57	18 12	18 42	19 42	20 27	21 57
Northborough	17 46	18 01	18 16	18 46	19 46	20 31	22 01
Market Deeping	17 50	18 05	18 20	18 50	19 50	20 35	22 05
Baston	18 05	18 10	18 35	19 05	19 55	20 50	22 10
Bourne	18 17	18 22	18 47	19 15	20 05	21 00	22 20

It takes Lynn 30 minutes to walk between the bus station in Peterborough and the cinema.  
 The latest bus she can catch home leaves Peterborough at 21 45

Lynn wants to watch a film called Sherlock Holmes.

**Sherlock Holmes**  
 Running time: 2 hours 14 minutes  
 Starts at: 4:15 pm, 5:15 pm, 7:10 pm

The film lasts for 2 hours 14 minutes.



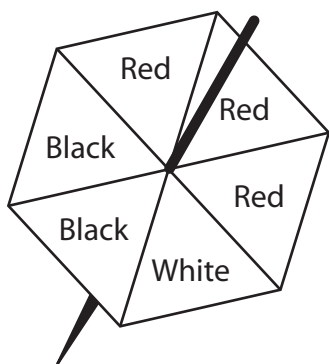
Plan a schedule for Lynn's visit to the cinema.

Schedule	Time
Bus leaves Baston	
Bus arrives Peterborough	
Film starts	
Bus leaves Peterborough	
Bus arrives Baston	

(Total for Question 3 is 5 marks)



4



Here is a fair 6-sided spinner.  
 Jack will spin the spinner once.  
 The spinner will land on one of the colours.

Draw a circle around the word to best describe the probability of the following events.

(a) The spinner will land on White.

(1)

impossible      unlikely      even      likely      certain

(b) The spinner will land on Red.

(1)

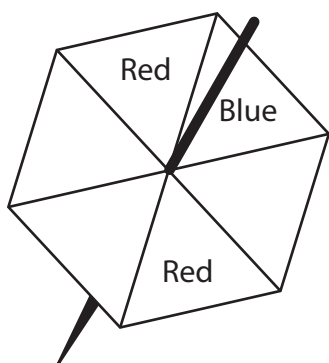
impossible      unlikely      even      likely      certain

(c) The spinner will land on Pink.

(1)

impossible      unlikely      even      likely      certain

Here is a different fair 6-sided spinner.  
 Jack will spin this spinner once.



The spinner is more likely to land on Blue than to land on Red.

(d) Write the missing colours on the spinner.

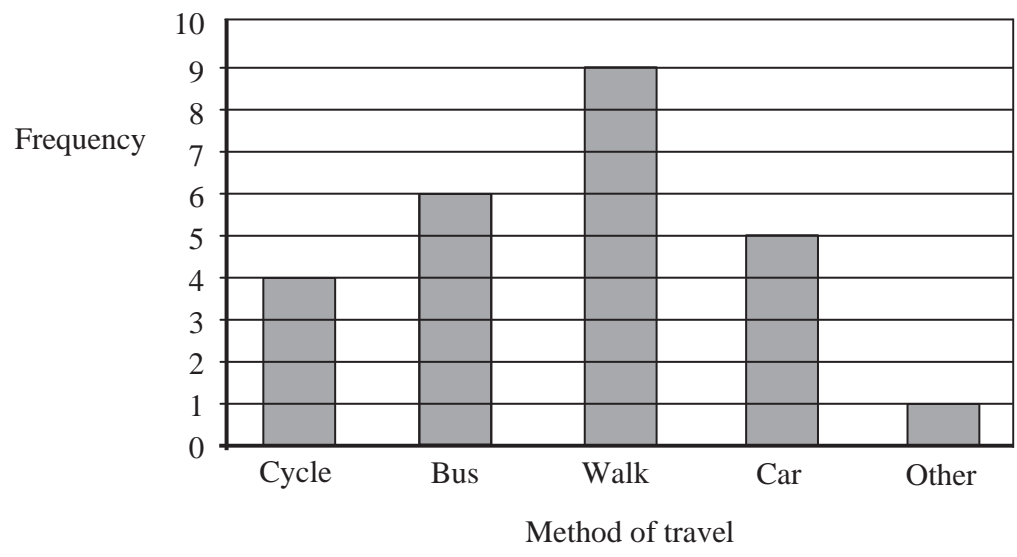
(1)

(Total for Question 4 is 4 marks)





5 Shannon asked some students how they travelled to school. She drew this bar chart to show the results.



(a) Which method of travel was used most by the students?

.....  
(1)

More students walked to school than cycled to school.

(b) How many more?

.....  
(1)

(c) Work out the number of students Shannon asked.

.....  
(2)

(Total for Question 5 is 4 marks)

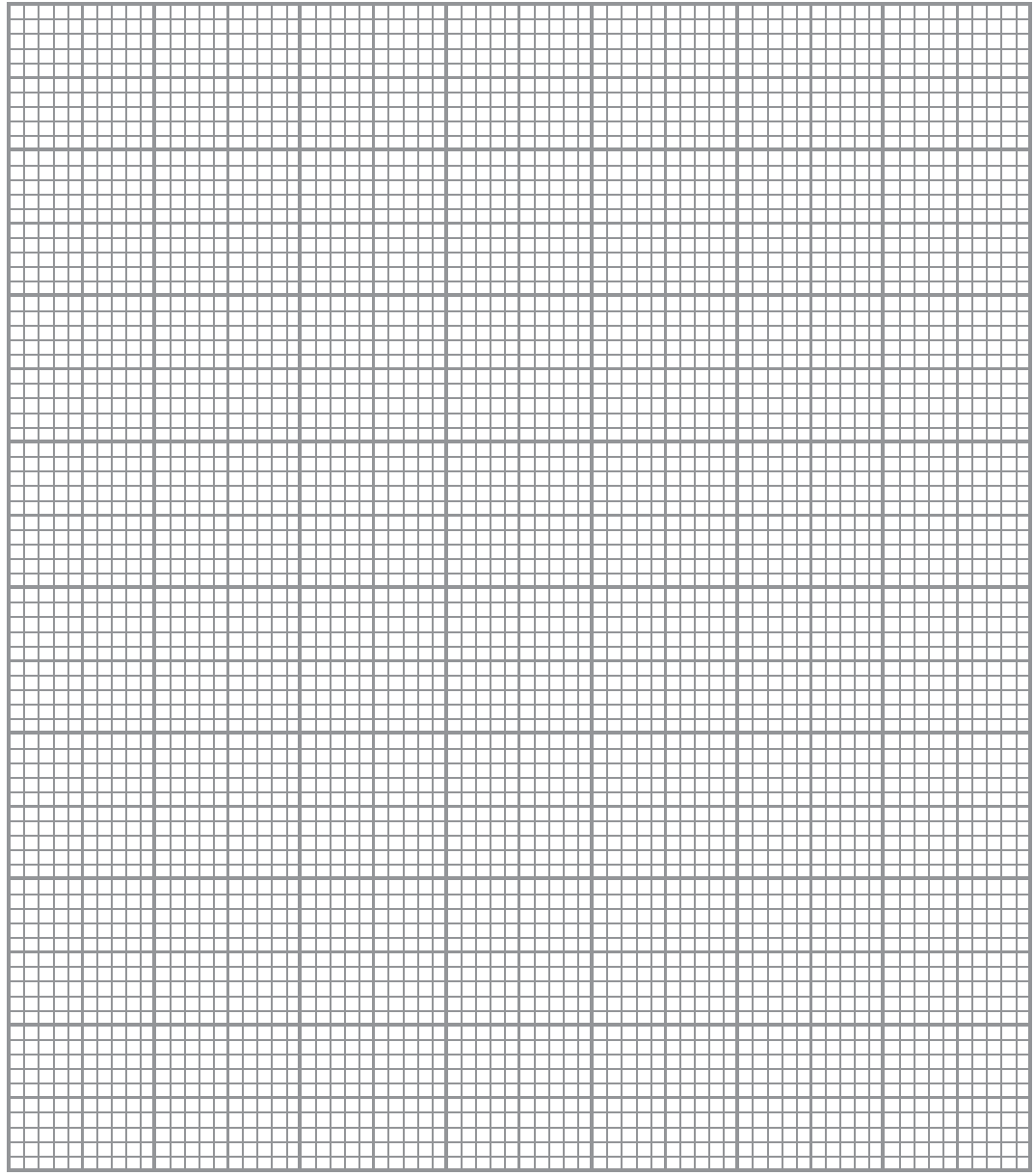




\*7 The table shows information about the number of Year 7 pupils absent from Keith's school last week.

	Monday	Tuesday	Wednesday	Thursday	Friday
Boys	8	11	12	14	13
Girls	10	9	12	13	11

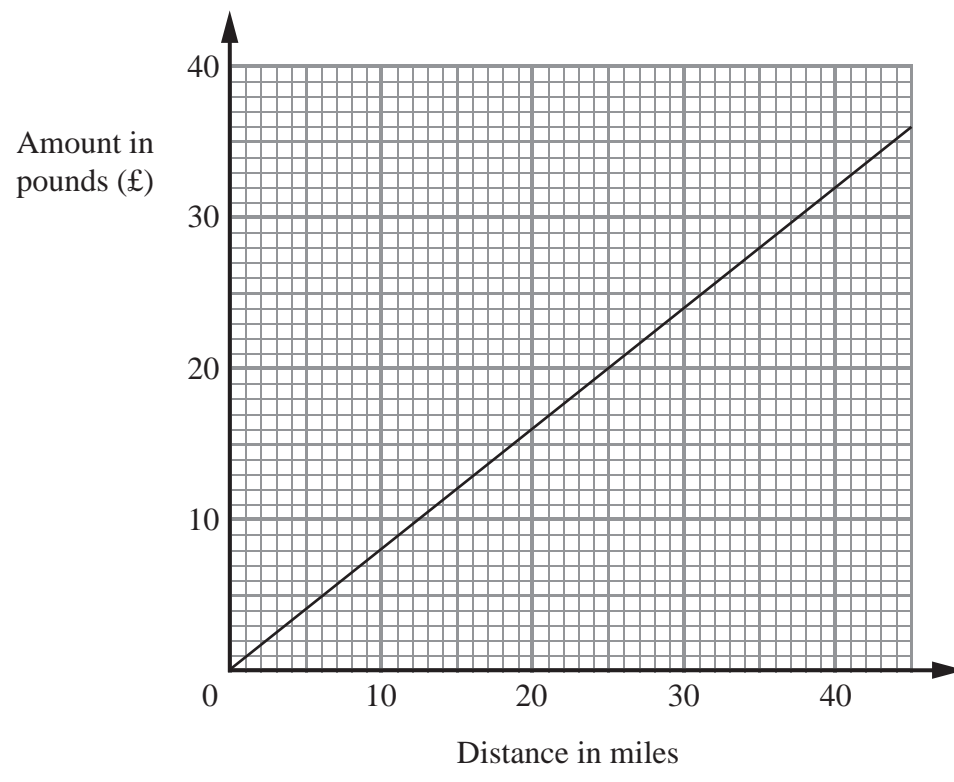
Keith wants to compare this information.  
On the grid, draw a suitable diagram or chart.



(Total for Question 7 is 4 marks)



8 Sophie's company pays her 80p for each mile she travels.  
 The graph can be used to work out how much her company pays her for travel.



Sophie travels 20 miles.

(a) Work out how much her company pays her.

£.....  
 (1)

Sophie's company paid her £60

(b) Work out the distance Sophie travelled.

..... miles  
 (2)

(Total for Question 8 is 3 marks)



9 Ouzma wants to find out the method of transport people use to travel to a shopping centre.  
Design a suitable data collection sheet she could use to collect this information.

(Total for Question 9 is 3 marks)



10 The table gives information about the number of goals scored by a football team in each match last season.

Number of goals	Frequency
0	4
1	5
2	4
3	7
4	4

(a) Write down the modal number of goals scored.

.....  
(1)

(b) Work out the total number of goals scored by the team last season.

.....  
(2)

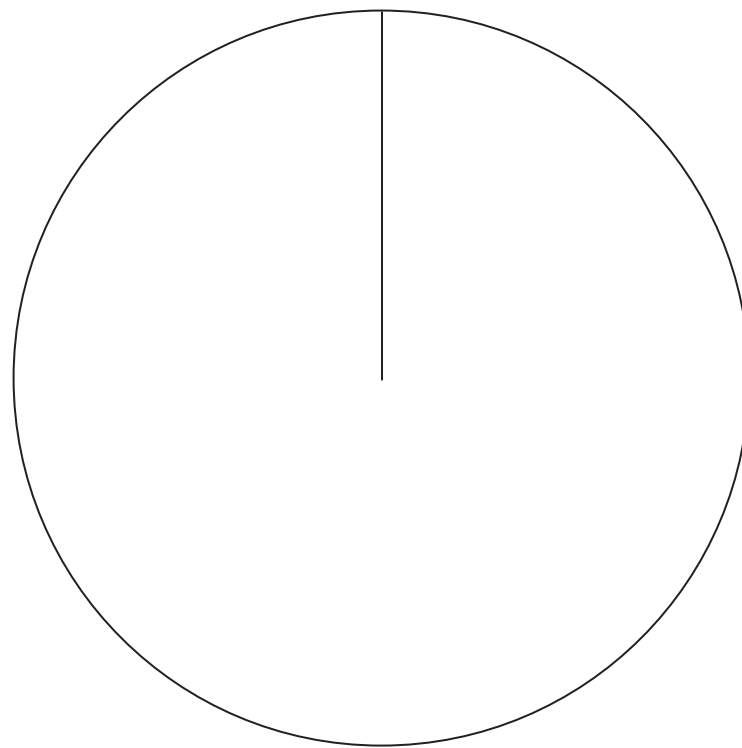


The table below gives information about the results of the matches played by the football team.

Result	Frequency
Won	10
Drew	6
Lost	8

(c) Draw an accurate pie chart to show this information.

(3)



(Total for Question 10 is 6 marks)



\*11 Mr and Mrs Jones are planning a holiday to the Majestic Hotel in the Cape Verde Islands.

The table gives information about the prices of holidays to the Majestic Hotel.

MAJESTIC HOTEL, Cape Verde Islands		
Departures	Price per adult	
	7 nights	14 nights
1 Jan – 8 Jan	£ 694	£ 825
9 Jan – 28 Jan	£ 679	£ 804
29 Jan – 5 Feb	£ 687	£ 815
6 Feb – 18 Feb	£ 769	£ 835
19 Feb – 8 Mar	£ 714	£ 817
9 Mar – 31 Mar	£ 685	£ 805
1 April – 9 April	£ 788	£ 862
10 April – 30 April	£ 748	£ 802

**Price per child:** 95% of adult price for 7 nights or 85% of adult price for 14 nights.

Mr and Mrs Jones are thinking about going on holiday

- on 20 February for 7 nights
- or** on 10 April for 14 nights.

Mr and Mrs Jones have 2 children.

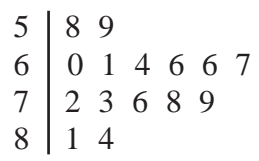
Compare the costs of these two holidays for the Jones family.

(Total for Question 11 is 5 marks)





12 Zoe recorded the heart rate of each of 15 people.  
She showed her results in a stem and leaf diagram.



**Key:**  
5|8 means 58 beats per minute

(a) Find the median heart rate.

..... beats per minute  
(1)

(b) Work out the range of the heart rates.

..... beats per minute  
(2)

Zoe then asked the 15 people to walk up some stairs.  
Zoe recorded the heart rates again.

She used the results to work out the median and the range.

Median	78
Range	37

(c) Compare the heart rates of the people before they walked up the stairs  
with their heart rates after they walked up the stairs.

.....

.....

.....

.....

(2)

**(Total for Question 12 is 5 marks)**



**13** 120 children went on a school activities day.  
Some children went bowling.  
Some children went to the cinema.  
The rest of the children went skating.

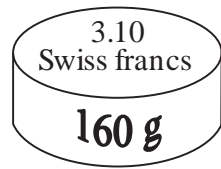
66 of these children were girls.  
28 of the 66 girls went bowling.  
36 children went to the cinema.  
20 of the children who went to the cinema were girls.  
15 boys went skating.

Work out the number of children who went bowling.

.....  
**(Total for Question 13 is 4 marks)**



**\*14** Margaret is in Switzerland.  
The local supermarket sells boxes of Reblochon cheese.



Each box of Reblochon cheese costs 3.10 Swiss francs.  
It weighs 160 g.

In England, a box of Reblochon cheese costs £13.55 per kg.

The exchange rate is £1 = 1.65 Swiss francs.

Work out whether Reblochon cheese is better value for money in Switzerland or in England.

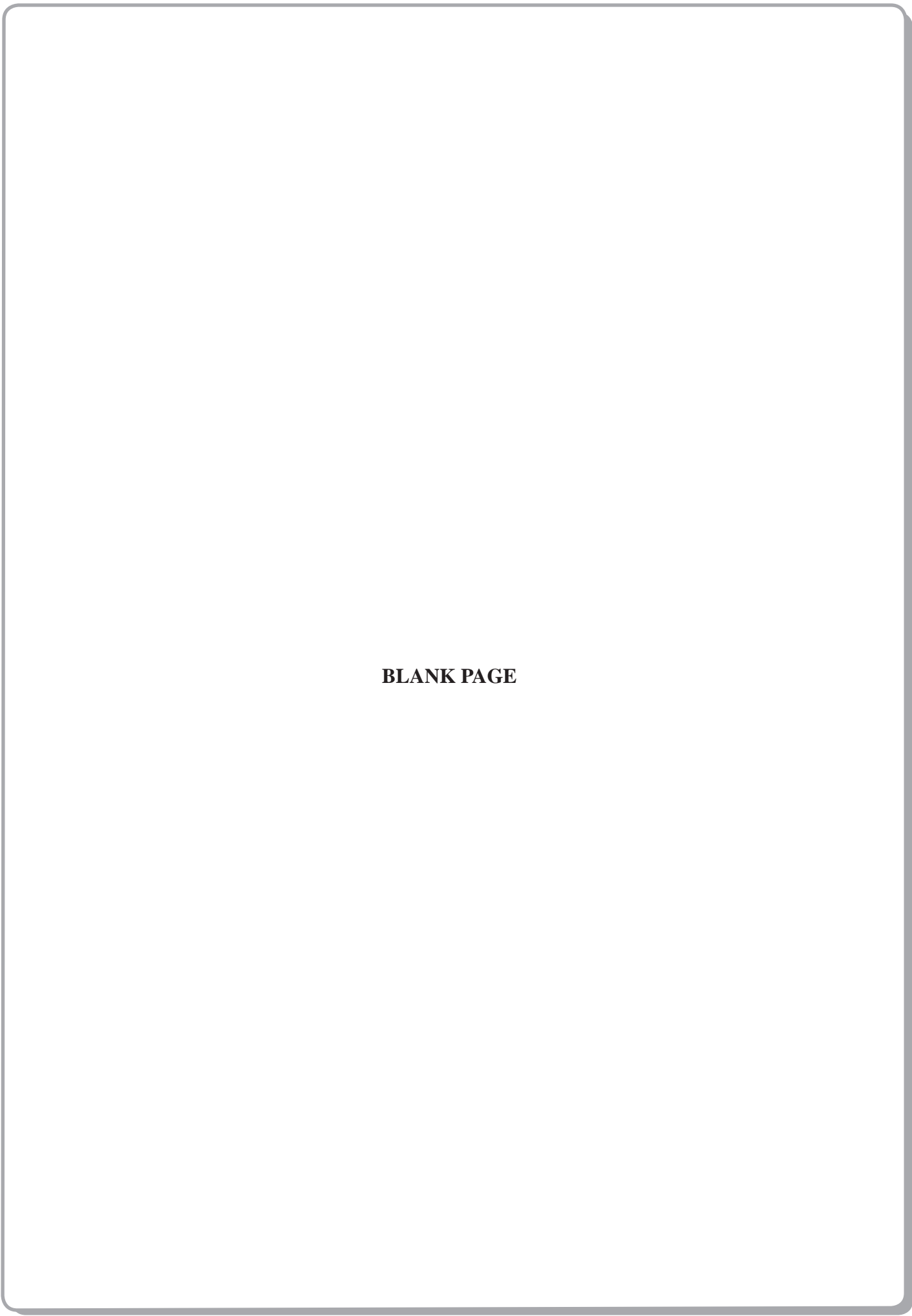
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(Total for Question 14 is 4 marks)

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TOTAL FOR PAPER IS 60 MARKS





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