

New Specification



General Certificate of Secondary Education
January 2012

Mathematics

Unit T1
(With calculator)
Foundation Tier
[GMT11]

WEDNESDAY 11 JANUARY
9.15 am–10.45 am



71	
Candidate Number	

For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
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20	
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22	
23	
24	

Total Marks	
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TIME

1 hour 30 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper.

Answer **all twenty-four** questions.

Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.

You **may** use a calculator for this paper.

INFORMATION FOR CANDIDATES

The total mark for this paper is 100.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

Functional Elements will be assessed in this paper.

Quality of written communication will be assessed in **question 20**.

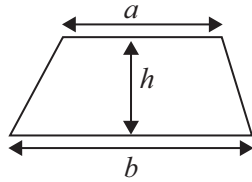
You should have a calculator, ruler, compasses and a protractor.

The Formula Sheet is overleaf.

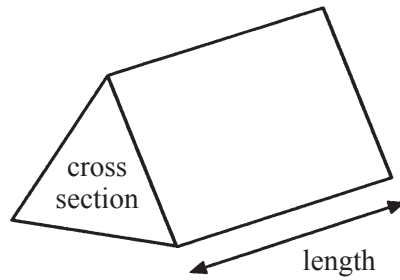


Formula Sheet

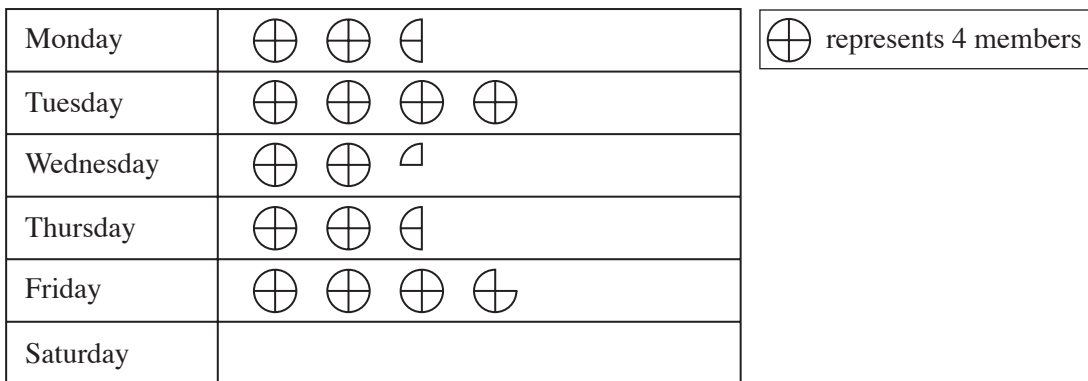
Area of trapezium = $\frac{1}{2}(a + b)h$



Volume of prism = area of cross section \times length



2 Here is a pictogram showing the number of members who played at the local tennis club last week.



(a) Write down the number of members who played on Wednesday.

Answer _____ [1]

(b) On which two days were there the same number of members playing?

Answer _____ and _____ [1]

(c) How many members in total played on Thursday and Friday if no member played on both days?

Answer _____ [1]

(d) On Saturday 21 members played at the club.

Show this on the pictogram. [1]

Examiner Only	
Marks	Remark

5 Tim Jackson visited a shop called "Music Mania."



He bought 3 CDs at £7.99 each and 2 DVDs at £8.50 each.

(a) Calculate his total bill.

Answer £ _____ [2]

(b) Tim paid by cheque.

Complete the cheque below.

 STAR Bank Town Square, Leyland Branch 1 Town Square, Leyland, Lancashire, PR4 0WN				25-08-92
Pay			Date	04/01/12
Amount			£	<input type="text"/>
		A/C Payee		<u>Tim Jackson</u>
 Bank plc 10JUL00	Cheque No. 000121	Branch No. 29110892	Account No. 0403392	Trans. Code 01
				Mr Tim Jackson

[2]

6 Thirteen students had the following number of books in their bags.

3, 8, 4, 3, 6, 5, 9, 3, 7, 4, 3, 5, 6

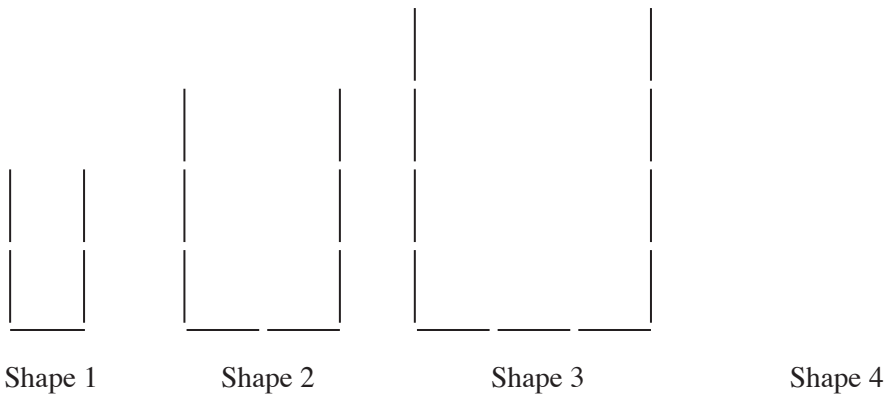
(a) What is the median number of books?

Answer _____ books [2]

(b) What is the mode of the number of books?

Answer _____ books [1]

8 Some “U” shapes drawn below are made with matches.



(a) Draw Shape 4. [1]

Shape Number	1	2	3	4	5
Number of Matches	5	8	11		

(b) Complete the table for Shapes 4 and 5. [1]

(c) What pattern do you notice in the “Number of Matches” row?

Answer _____ [1]

(d) Find the number of matches in Shape 10.

Answer _____ [2]

Examiner Only	
Marks	Remark

9 Michael did an investigation into the colours of cars on the road.

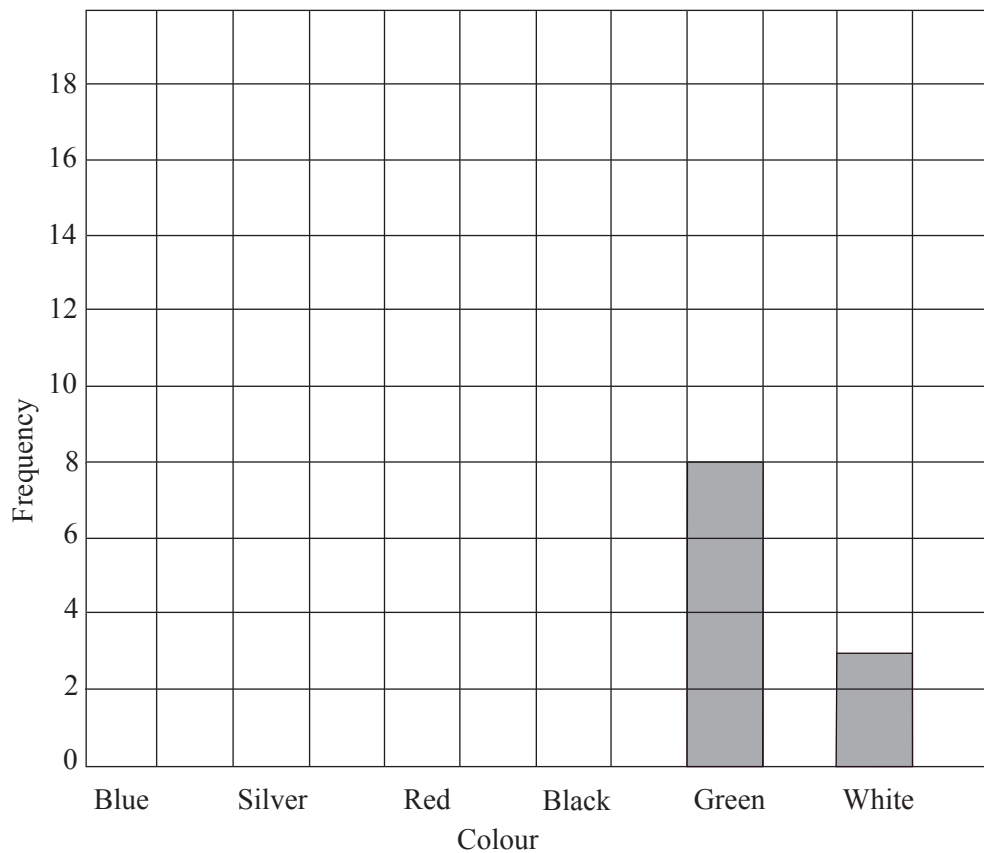
He recorded the data in a frequency table and drew a bar chart.

Below is part of Michael's frequency table.

Colour	Tally	Frequency
Blue	|||| |||| |	
Silver	|||| |||| |||| ||	
Red	|||| ||||	
Black	||||	

(a) Complete the frequency column in Michael's table. [1]

Part of Michael's bar chart is shown below.



(b) Complete the bar chart for the colours Blue, Silver, Red and Black. [1]

Examiner Only	
Marks	Remark

12 (a) There are 10 students on a school bus.

Their ages in years are 12, 15, 13, 17, 10, 14, 16, 15, 16, 11

What is the mean age of the 10 students?

Answer _____ years [3]

(b)

Ayr						
90	Carlisle					Mileages
73	96	Edinburgh				
132	196	144	Fort William			
33	96	44	160	Glasgow		
94	136	45	105	61	Perth	
51	101	124	184	84	144	Stranraer

(i) John travels from Carlisle to Perth. What distance does he travel?

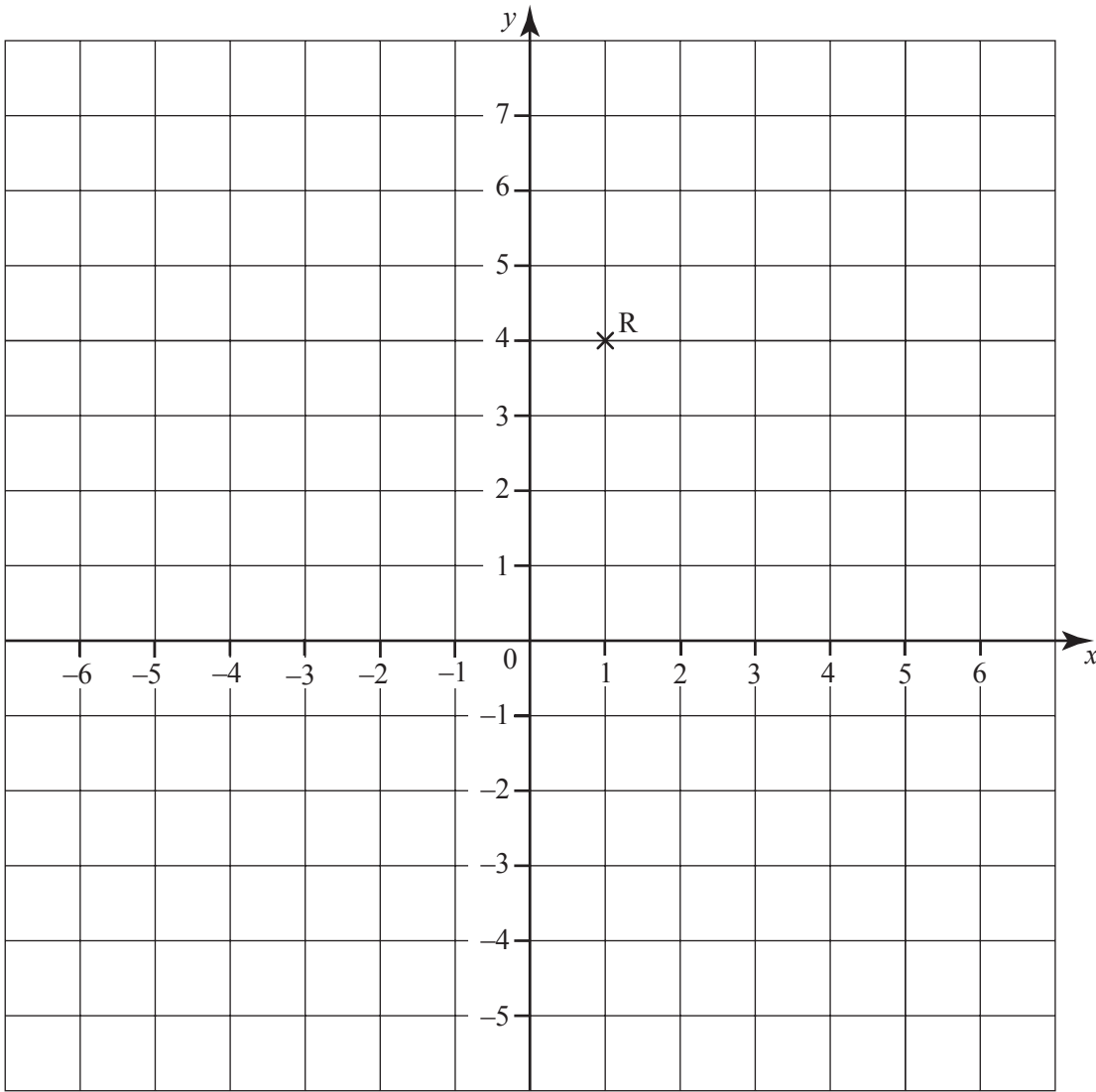
Answer _____ miles [1]

(ii) Mark travels from Carlisle to Glasgow and then on to Perth.

How many more miles does Mark travel than John?

Answer _____ miles [2]

Examiner Only	
Marks	Remark



Examiner Only	
Marks	Remark

(a) Write down the co-ordinates of the point R.

Answer (____, ____) [1]

(b) Plot and label the points S (-5, 2) and T (-1, -2). [2]

(c) Join R, S and T to form a triangle.

What type of triangle is RST?

Answer _____ [1]

Quality of written communication will be assessed in this question.

Examiner Only	
Marks	Remark

Show your working.

- 20 (a) Each student in Year 10 studies one language (French, Spanish or German).
 There are 135 students in Year 10.
 Two-fifths study French, one-third study Spanish and the rest study German.
 How many students study German?

Answer _____ [4]

- (b) Below is a portion of Miss Johnston’s bank statement for September.

Account Summary				
Opening Balance £1224.08				
Monthly Overdraft Limit £500.00				
Miss Johnston				
1st September–30th September				
Account details				
DATE	PAYMENT DETAILS	OUT	IN	BALANCE
02 Sept	Balance forward			1224.08
04 Sept	Southford BS	1013.27		_____
11 Sept	Travelwide Ins.	134.28		76.53
23 Sept	Carcomp. Finance	253.68		_____
27 Sept	Cheque Lodge.		52.00	_____

- (i) Complete **all** the blank spaces on the statement. [3]
- (ii) How much more could Miss Johnston have spent in September, without exceeding her overdraft limit?

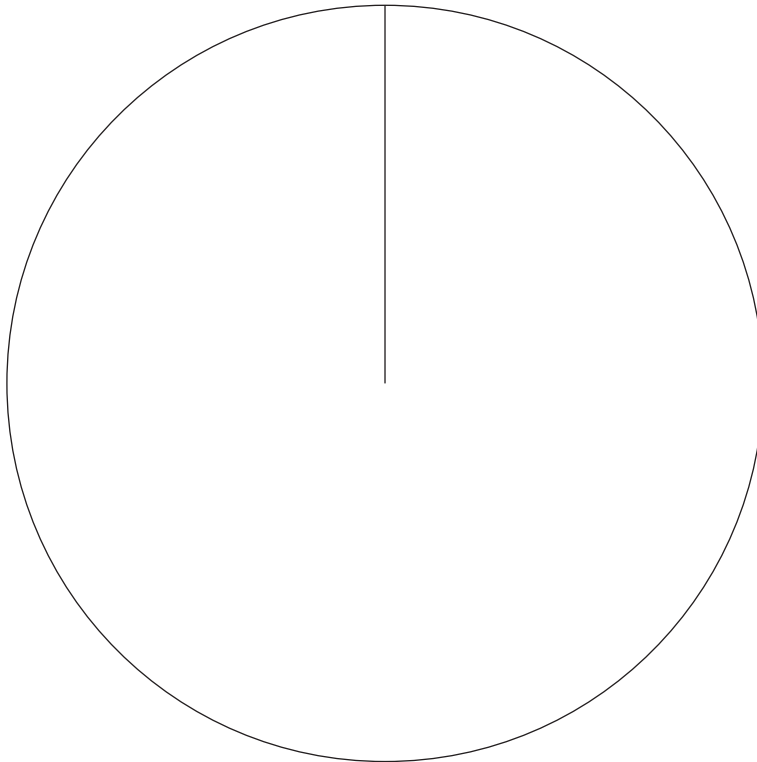
Answer £ _____ [1]

- 21 A travel agency recorded the types of holiday which were booked on a particular week.

The table below shows the results.

Type of Holiday	Frequency	Degrees
Bed & Breakfast	20	
Hotel half-board	22	
Self-catering	6	
Camping	12	

Complete an accurate pie chart below to show this information.



[4]

Examiner Only	
Marks	Remark

Haveringham to Amberleyton				MONDAY TO SATURDAY					
		SO	SX						
Haveringham	d	0520	0520	0550	0750	0850	0932	0950	1032
Norterton	d	...	...	0600	0800	0900	...	1000	...
Hamlington	d	0550	0550	0605	0805	0905	0942	1005	1042
Bristead	d	...	...	0612	0812	0912	...	1012	...
North									
Petersville	a	0605	0605	0618	0818	0918	0957	1018	1057
	d	0610	0610	0623	0823	0923	1002	1023	1102
Oxerton	d	...	...	0629	0829	0929	...	1029	...
Crosstley	d	...	...	0636	0836	0936	...	1036	...
Manningham	a	0622	0622	0641	0641	0941	1014	1041	1114
	d	...	0625	0644	0844	0944	1017	1044	1117
East									
Tuttingley	d	...	...	0648	0848	0948	1021	1048	1121
Amberleyton	a	...	0638	0658	0858	0958	1031	1053	1131

General Notes:

SO Saturdays only. SX Not Saturdays, a Arrival time, d Departure time

- (a) How many minutes does the 0932 train from Haveringham take to reach Manningham?

Answer _____ minutes [1]

- (b) What is the earliest train you could take from Hamlington on a Saturday to get to Amberleyton without changing trains?

Answer _____ [1]

Examiner Only	
Marks	Remark

23 Solve the equations

(a) $9x - 5 = 58$

Answer $x =$ _____ [2]

(b) $\frac{x}{8} = 3$

Answer $x =$ _____ [1]

Examiner Only	
Marks	Remark

24 A group of students take class tests in both English and Mathematics.

Each test is marked out of 50.

The stem and leaf diagrams below show the distribution of marks for both tests.

	English		Mathematics
0		0	9
1	2 5 6 9	1	0 1 2 6 7
2	3 6 7 7 8	2	1 3 4 5 7 8 8
3	0 2 4 5 5	3	2 5 7 9
4	1 2 2 3 6	4	1 4 8
5	0	5	

Key: 2 | 5 means 25

(a) Which subject has the bigger range of marks and by how much?

Answer _____ has the bigger range by _____ [2]

(b) Which subject has the bigger median mark and by how much?

Answer _____ has the bigger median mark by _____ [2]

THIS IS THE END OF THE QUESTION PAPER

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