



Rewarding Learning

Centre Number

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Candidate Number

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General Certificate of Secondary Education
2014

Mathematics

Unit T1

(With calculator)

Foundation Tier



GMT11

[GMT11]

TUESDAY 27 MAY, 9.15am–10.45am

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. **You must answer the questions in the spaces provided. Do not write outside the box, around each page, on blank pages or tracing paper.**

Complete in blue or black ink only. **Do not write with a gel pen.**

Answer **all twenty-eight** 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 **questions 23 and 24.**

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

The Formula Sheet is on page 2.

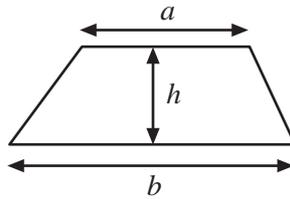
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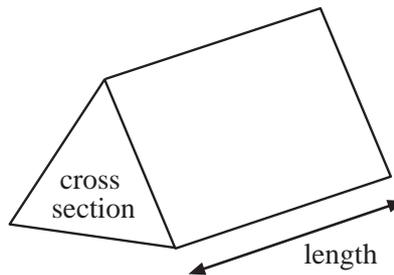
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Formula Sheet

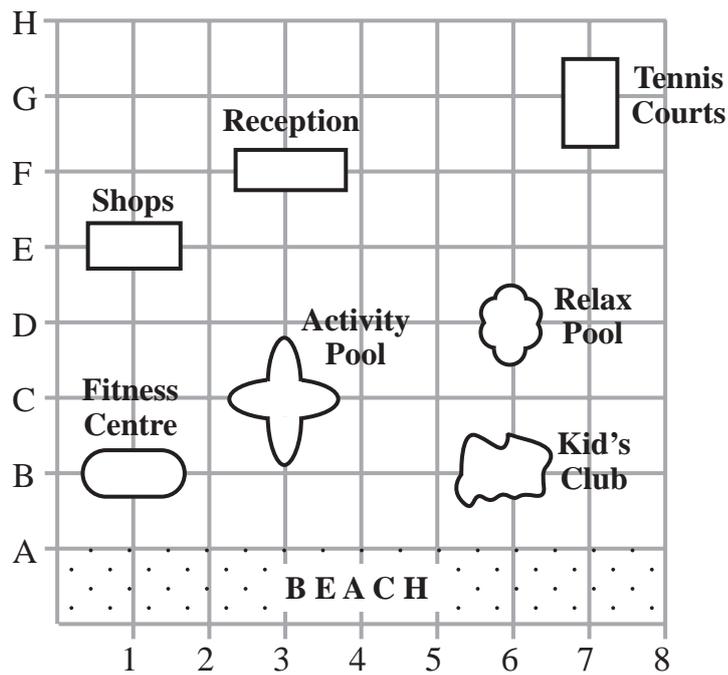
Area of trapezium = $\frac{1}{2}(a + b)h$



Volume of prism = area of cross section \times length



1 The grid below shows the position of some features in a hotel complex.



(a) What feature is at position (6, D)?

Answer _____ [1]

(b) What is the position of the shops?

Answer (____, ____) [1]

(c) The Beach Bar is at position (4, A)

Mark with a "B" the position of the Beach Bar on the grid. [1]

Examiner Only

Marks Remark

Total Question 1

[Turn over



- 3 The 4 winning numbers in a swimming club lottery were called out as follows:

The 1st number is the square root of 576

The 2nd number is a multiple of 8 between 30 and 39

The 3rd number is the cube of 3

The 4th number is the largest prime number less than 40

What were the 4 winning numbers?

Answer 1st _____ 2nd _____ 3rd _____ 4th _____ [4]

Examiner Only

Marks Remark

Total Question 3

- 4 On Rewards Day, Year 10 pupils are taken ice skating.

3 buses are hired. Each bus has 52 passenger seats.

(a) How many passenger seats are there in total?

Answer _____ [1]

9 teachers and 135 pupils are going on the trip.

(b) How many empty seats are there in total?

Answer _____ [2]

(c) How many teachers and how many pupils should be placed on each bus for safety reasons?

Complete the following sentence.

I would put _____ teachers and _____ pupils on each bus. [2]

Total Question 4

[Turn over

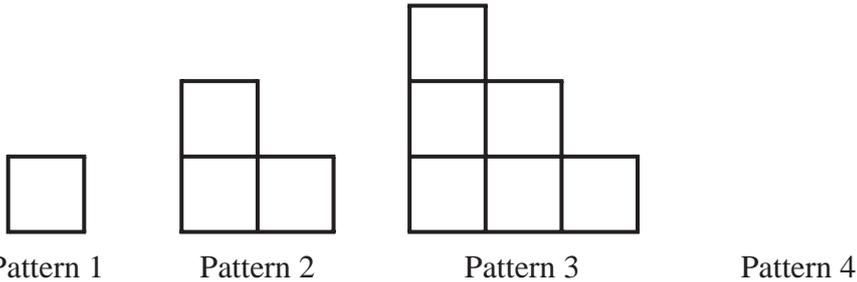


5 (a) Write down the next term of the sequence

1, 6, 11, 16

Answer _____ [1]

(b) These patterns of squares are the first 3 in a sequence.



(i) Draw pattern 4 in the sequence. [1]

(ii) Count the number of squares in each pattern and write them below.

What name is given to this sequence of numbers?

Answer The numbers are _____ , _____ , _____ and _____

and they are called _____ numbers. [2]

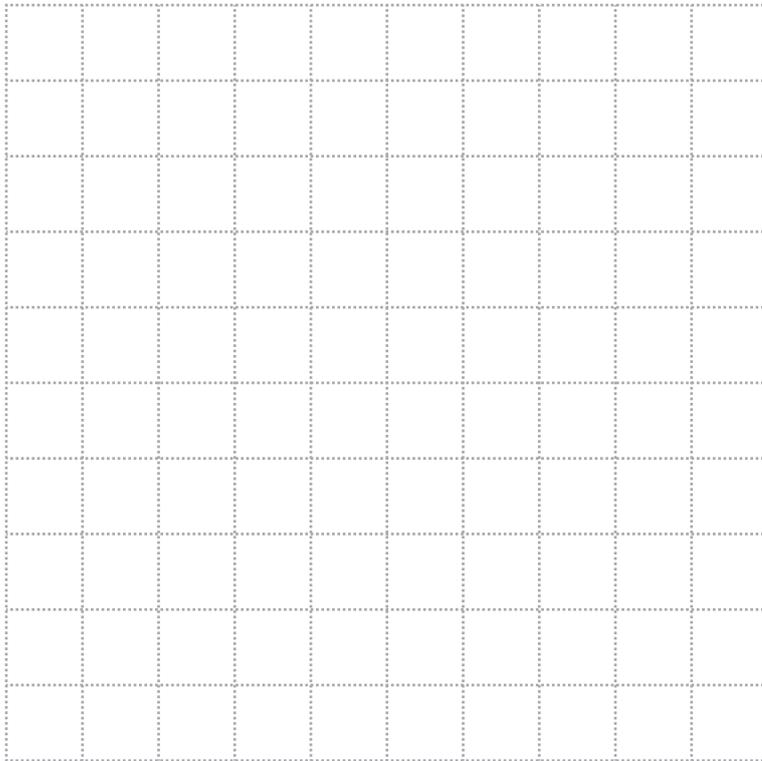
Examiner Only	
Marks	Remark
Total Question 5	



7 Jake recorded the colours of cars passing his house using a tally chart.

Colour	Tally	Frequency
Red		8
White		3
Black		5
Silver		9
Blue		4

(a) On the grid below, draw a bar chart to show this information.



[3]

(b) Which is the most popular colour of car?

Answer _____ [1]



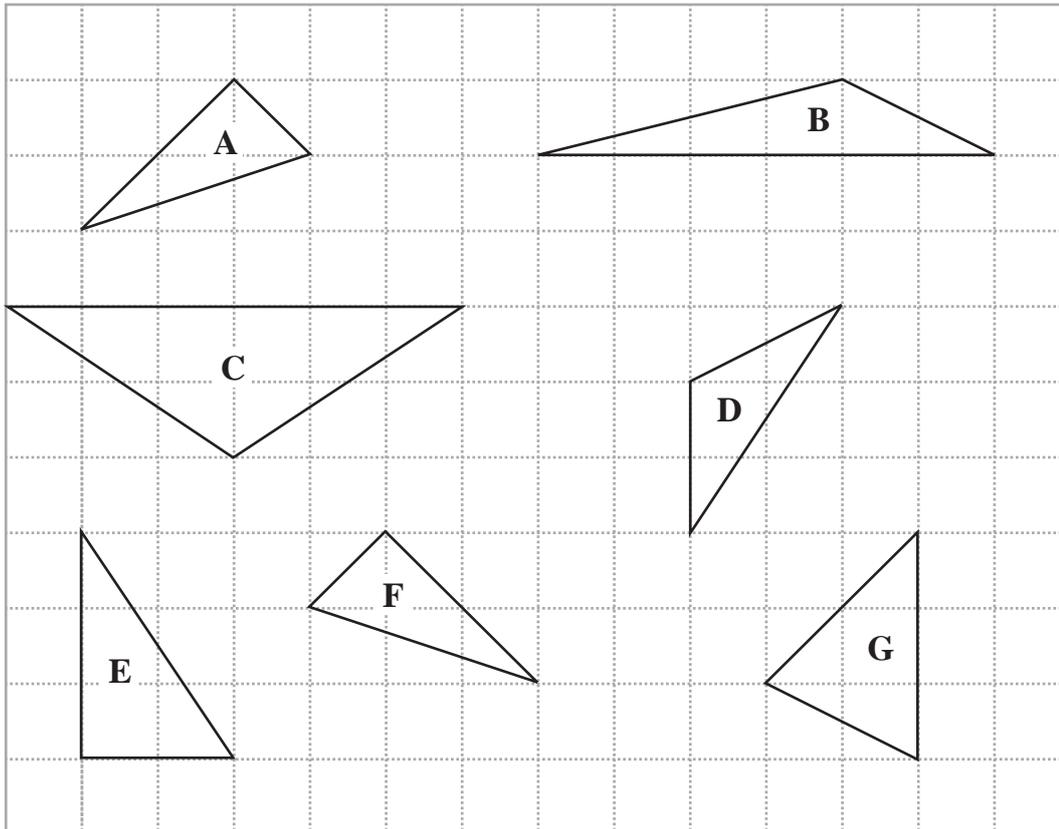
(c) How many cars did Jake record altogether?

Examiner Only

Marks	Remark
Total Question 7	

Answer _____ [1]

8 Here are some triangles on a grid.



(a) Which triangle is isosceles?

Answer _____ [1]

(b) Write down the special name for triangle E.

Answer _____ [1]

Two of the triangles are congruent.

(c) Write down the letters of the two triangles which are congruent.

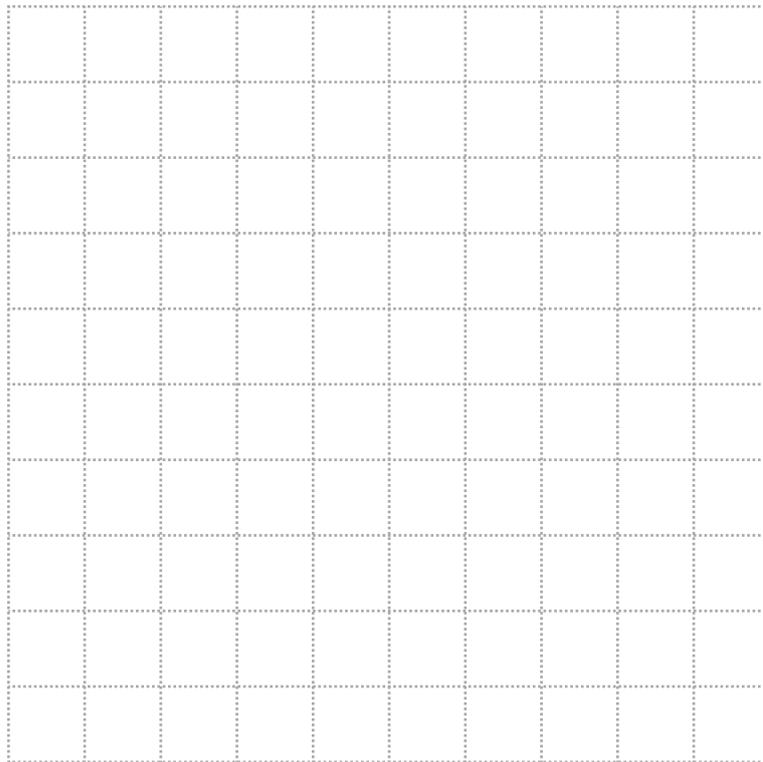
Answer _____ and _____ [1]

Total Question 8

[Turn over



(b) Draw a square on the grid below with the same perimeter as the L-shape opposite.



[1]

Examiner Only	
Marks	Remark

Total Question 9

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10 Cans of Cola are sold in packs of 6

135 pupils attend a school disco.

How many packs of Cola are needed to give each pupil one can of Cola?

Answer _____ [2]

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Total Question 10

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[Turn over



11 (a) Write in order of size, smallest first

$\frac{1}{5}$, 0.26, 19%

Answer _____ , _____ , _____ [2]

(b) Write 0.157 as a fraction.

Answer _____ [1]

Examiner Only	
Marks	Remark
Total Question 11	

12 Ben buys items of equipment for his exams at the following cost:

Item	Cost
A calculator	£6.80
A ruler	60p
A pack of 3 pens	£5.45
A file block	£3.20

Ben pays for the items with a £20 note.

Calculate the change that Ben should receive.

Answer £ _____ [3]

Total Question 12	



13 Sam owns 30 acres of land.

15 acres are grass.

12 acres are woodland.

The rest is marsh.

(a) Write, in its simplest form, the fraction of Sam's land that is woodland.

Answer _____ [1]

(b) What percentage of Sam's land is marsh?

Answer _____ % [2]

Examiner Only

Marks Remark

Total Question 13

14 Sixteen students had the following number of coins in their pockets.

9, 3, 5, 8, 2, 7, 4, 8, 7, 3, 8, 6, 5, 9, 8, 5

(a) What is the mode of the number of coins?

Answer _____ [1]

(b) What is the range of the number of coins?

Answer _____ [1]

(c) What is the median number of coins?

Answer _____ [2]

Total Question 14

[Turn over



16

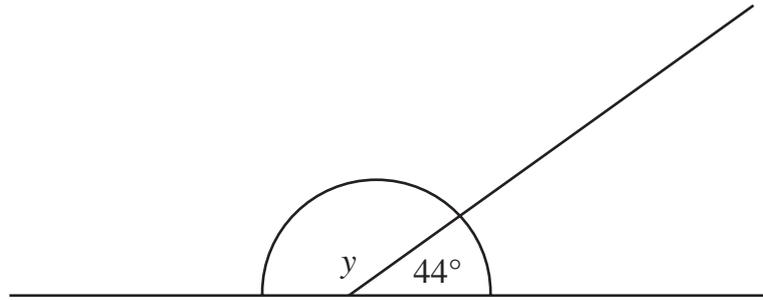


diagram not
drawn accurately

(a) Work out the value of y .

Answer $y = \text{_____}^\circ$ [1]

(b) Give a reason for your answer.

Reason _____ [1]

Examiner Only

Marks	Remark
Total Question 16	

[Turn over

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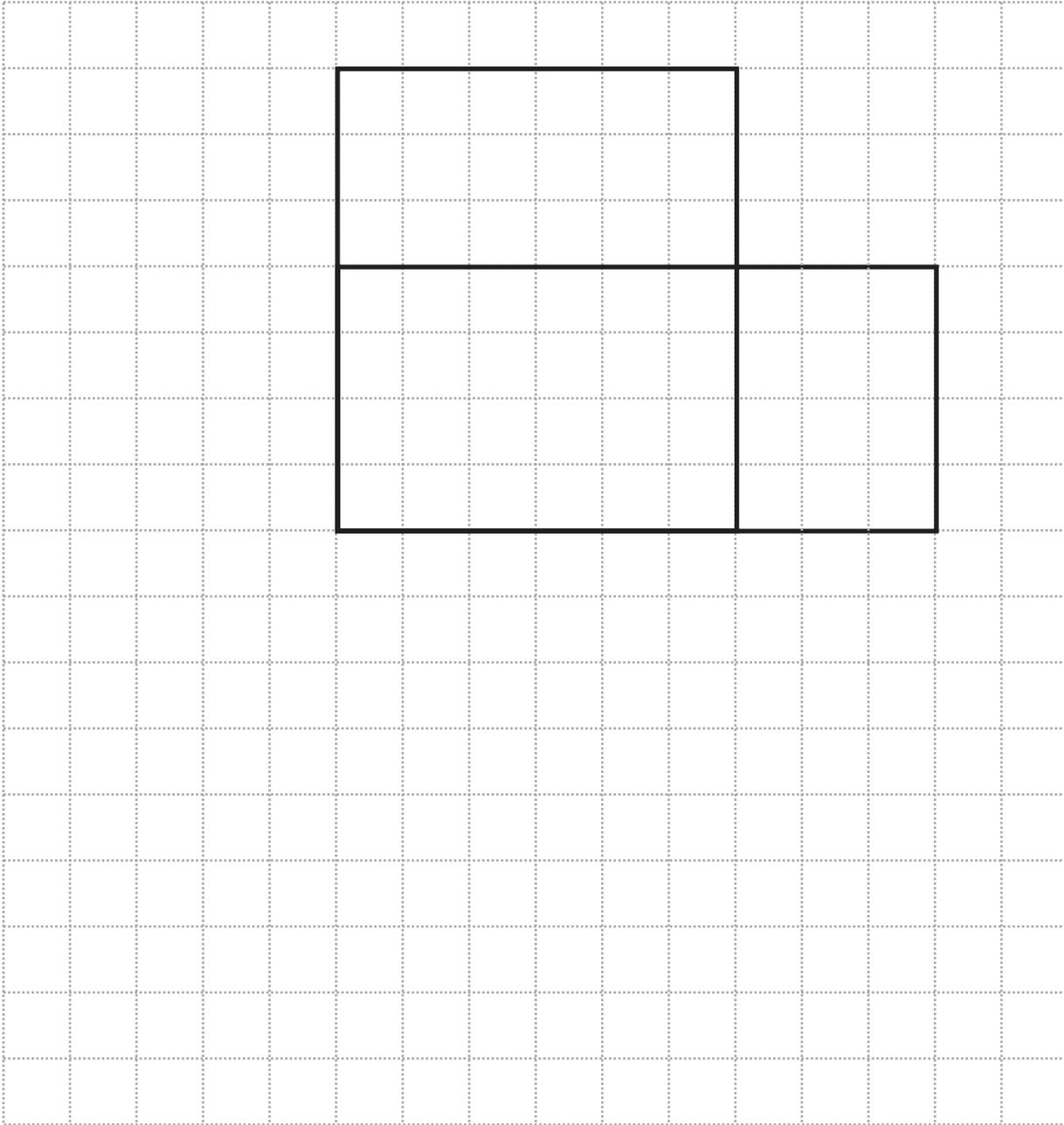
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(b) On the centimetre grid below, complete the net of the cuboid.



[3]

Examiner Only	
Marks	Remark
Total Question 18	

[Turn over



22 Of 304 000 flights from 10 UK airports, 74% were on time.

How many flights were on time?

Answer _____ [2]

Examiner Only	
Marks	Remark
Total Question 22	

Quality of written communication will be assessed in this question.

23 Tina bought a garden ornament costing £12.75 and some shrubs.
 Each shrub cost £3.15
 The total cost was £31.65
 How many shrubs did she buy?

Answer _____ [3]

Total Question 23	

[Turn over



25 The stem and leaf diagram shows the weights of some schoolbags.



Key $2 \mid 5 = 2.5 \text{ kg}$

Write down

(a) the range,

Answer _____ kg [1]

(b) the median.

Answer _____ kg [1]

Examiner Only

Marks	Remark
Total Question 25	

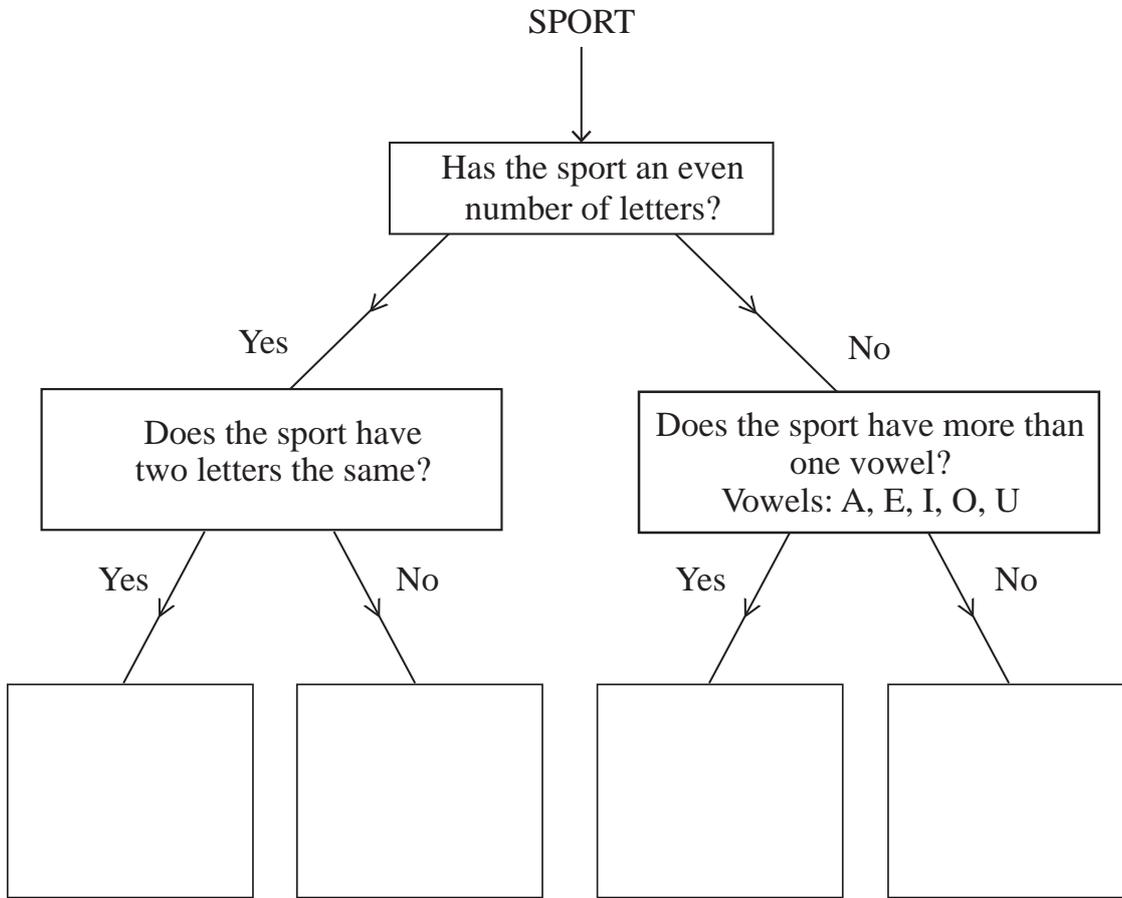
Total Question 25

[Turn over



26 (a) Use the decision tree diagram to write the sports in the correct boxes.

CYCLING GYMNASTICS ROWING TENNIS



[2]

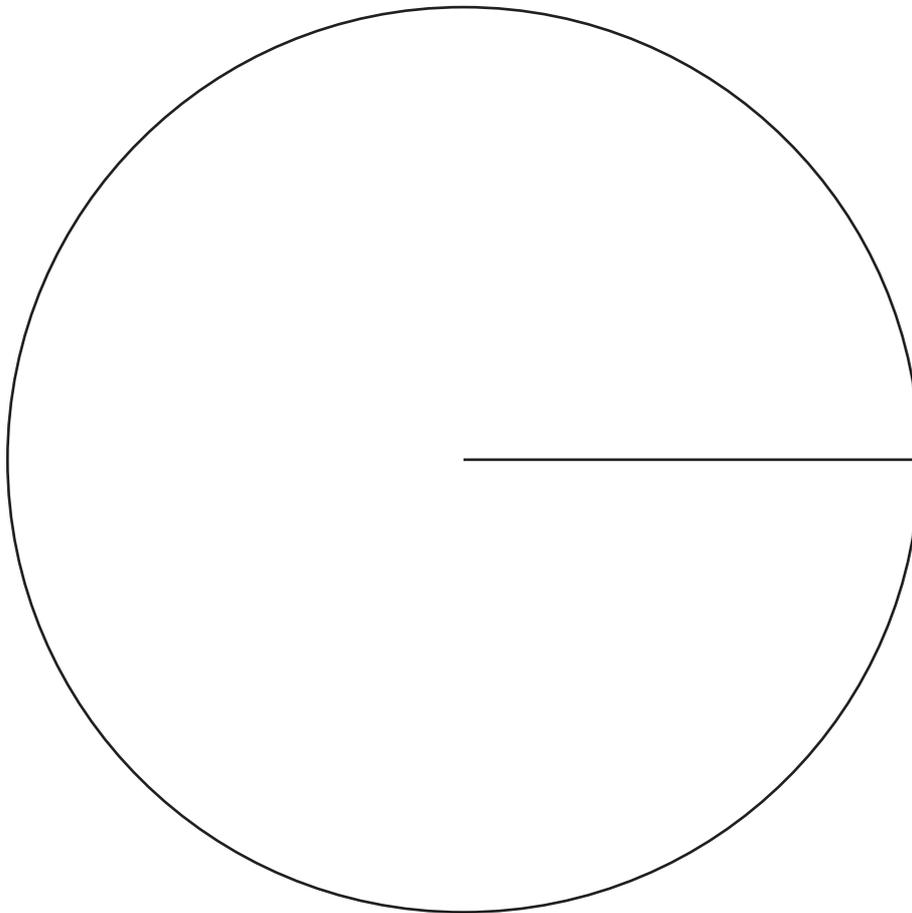
Examiner Only	
Marks	Remark



(b) The number of items sold in a shop was recorded as follows.

Item	Number	Angle
Television	25	
Fridge	12	
Washing Machine	8	
Camera	15	

Draw a pie chart to illustrate this information.



[4]

Examiner Only

Marks	Remark
Total Question 26	

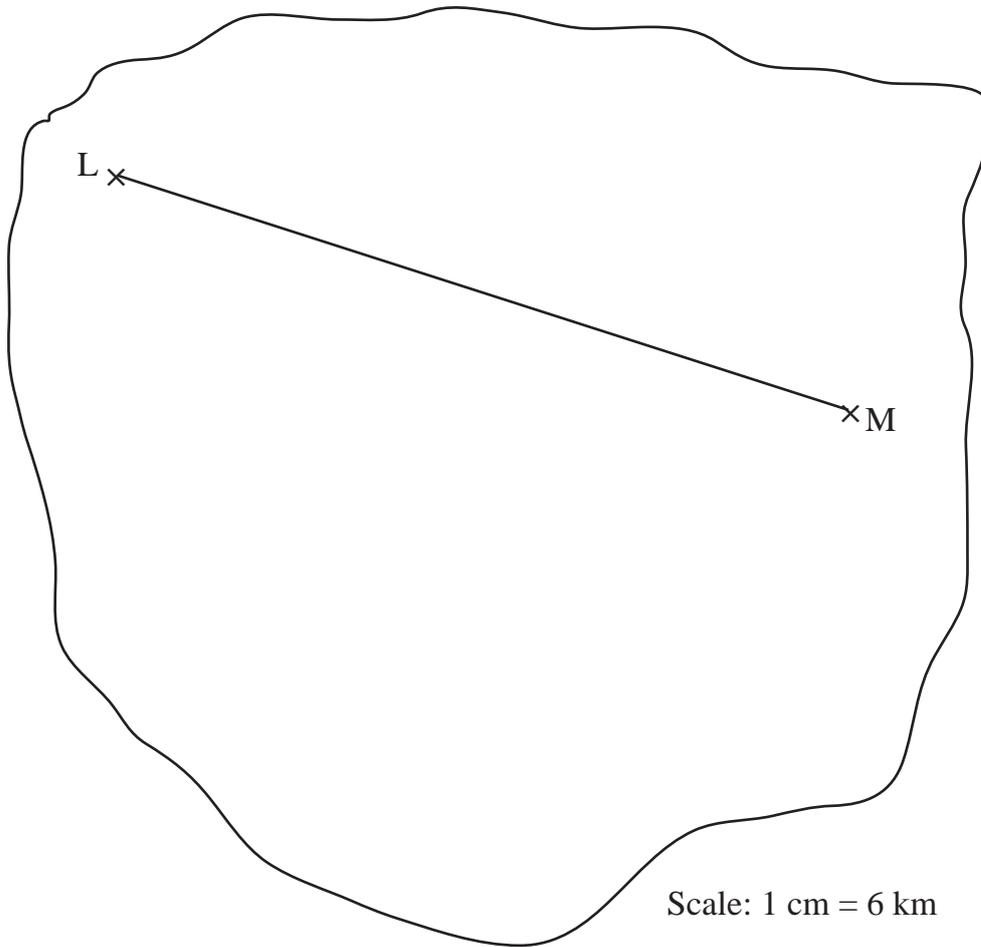
Total Question 26

[Turn over



(b) The map of an island is shown below.

L and M are the positions of two houses on the island.



Calculate the actual distance from L to M in kilometres.

Answer _____ km [2]

Examiner Only

Marks

Remark

[Turn over



(c) A sheet of A4 paper is a rectangle 297 mm long and 210 mm wide.

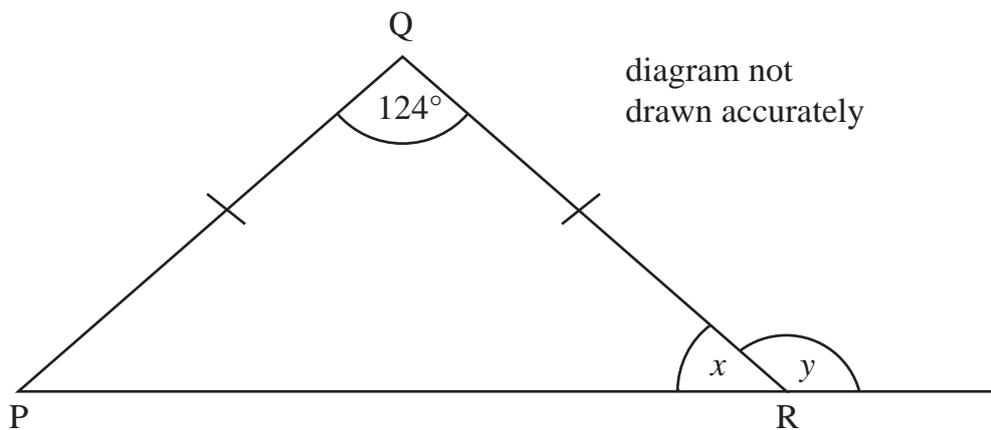
Calculate the area of a sheet of A4 paper.

Give your answer in square centimetres.

Answer _____ cm^2 [2]

(d) PQR is an isosceles triangle.

PQ = QR.



Calculate the angles x and y .

Answer $x =$ _____ $^\circ$

$y =$ _____ $^\circ$ [3]

Examiner Only	
Marks	Remark
Total Question 27	



28 (a) Solve

(i) $\frac{y}{4} = 12$

Answer $y =$ _____ [1]

(ii) $2d - 4 = 5$

Answer $d =$ _____ [2]

(b) $12f = 20$ Write down the value of $3f$

Answer _____ [1]

Examiner Only

Marks Remark

Total Question 28



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For Examiner's use only	
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Examiner Number

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