



Rewarding Learning

General Certificate of Secondary Education  
2014

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Candidate Number

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## Mathematics

Unit T1

(With calculator)

Foundation Tier



[GMT11]

\*GMT11\*

TUESDAY 27 MAY, 9.15am–10.45am

### TIME

1 hour 30 minutes, plus your additional time allowance.

### 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.**

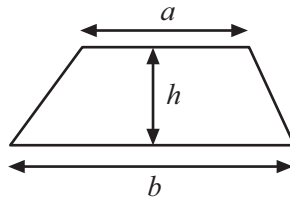
You should have a calculator, ruler, compasses and a protractor.

The Formula Sheet is on page 2.

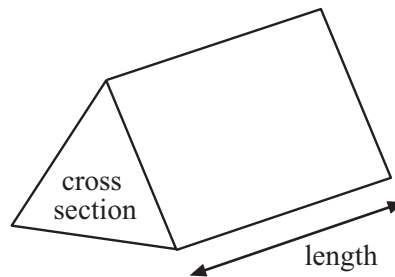
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# Formula Sheet

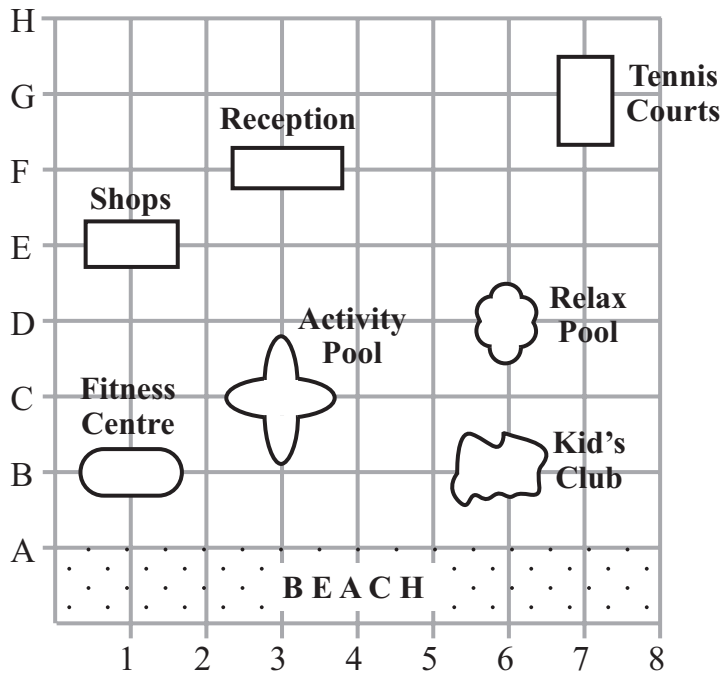
$$\text{Area of trapezium} = \frac{1}{2}(a + b)h$$



$$\text{Volume of prism} = \text{area of cross section} \times \text{length}$$



1 Look at the grid below.



(a) What 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 the position of the Beach Bar on the grid.

Write a **B** at position (4, A). [1]

Examiner Only

Marks	Remark
Total Question 1	

[Turn over





3 Look at the sentences below.  
The sentences are about the four winning numbers in a lottery.

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 are the 4 winning numbers?

Answer 1st \_\_\_\_\_ 2nd \_\_\_\_\_ 3rd \_\_\_\_\_ 4th \_\_\_\_\_ [4]

Examiner Only	
Marks	Remark
Total Question 3	

4 Year 10 pupils are going on a trip.

Their teacher hires 3 buses. 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 go on each bus for safety reasons?

Complete the following sentence.

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

Total Question 4	

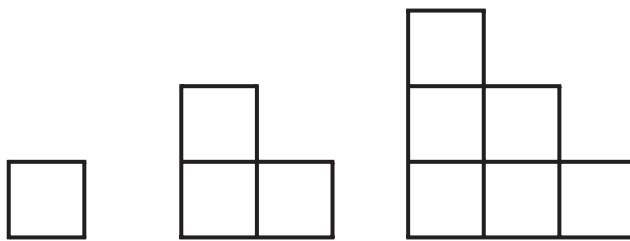
**[Turn over**

- 5 (a) Look at the sequence below.  
What is the next term?

1, 6, 11, 16 .....

Answer \_\_\_\_\_ [1]

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



Pattern 1

Pattern 2

Pattern 3

Pattern 4

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

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

What is this sequence of numbers called?

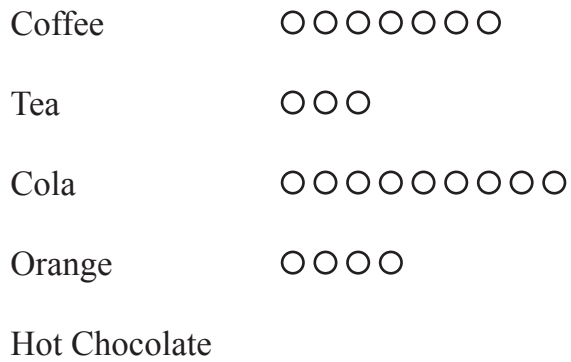
The numbers are \_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_ and \_\_\_\_\_

and they are called \_\_\_\_\_ numbers. [2]

Examiner Only	
Marks	Remark
Total Question 5	

6 140 drinks were sold in a café. The first four rows of a pictogram of the drink sales are shown below.

**Drink Sales**



(a) 45 colas were sold.

Complete the key: ○ = \_\_\_\_\_ drinks [1]

(b) How many coffees were sold?

Answer \_\_\_\_\_ [1]

(c) How many more colas than teas were sold?

Answer \_\_\_\_\_ [1]

(d) Complete the row of the pictogram for hot chocolate.

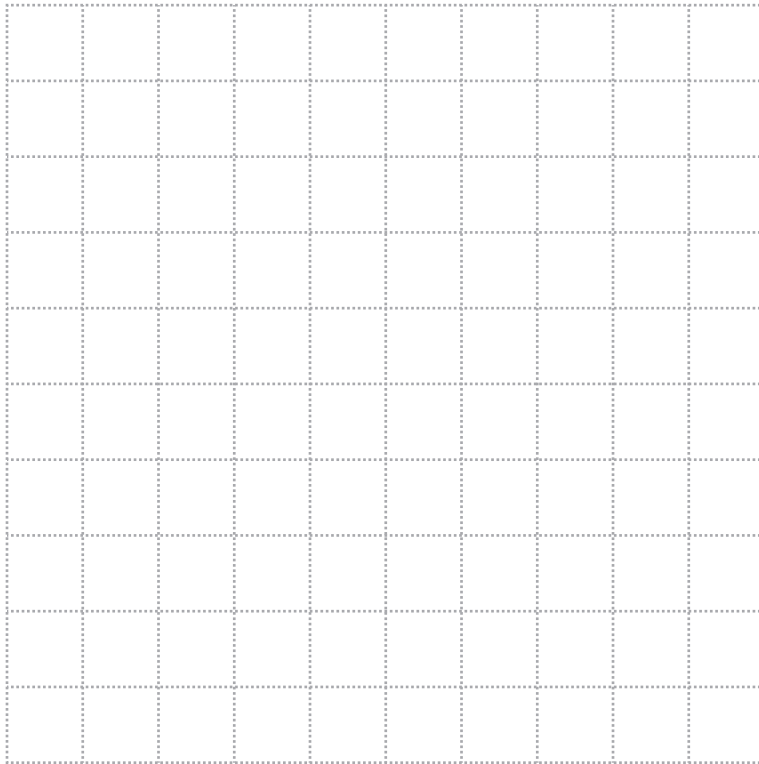
Examiner Only	
Marks	Remark
Total Question 6	
[2]	

**[Turn over**

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]

Examiner Only	
Marks	Remark



(c) How many cars did Jake record altogether?

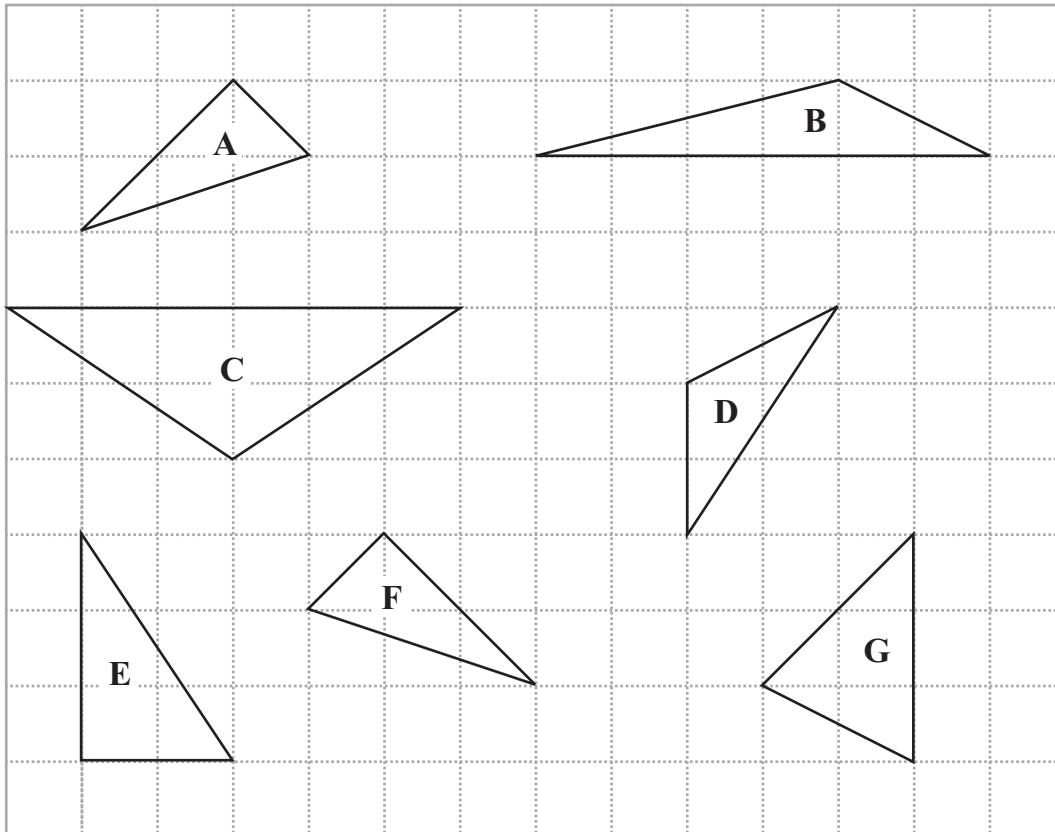
Examiner Only

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) On the grid below draw a square with the same perimeter as the L-shape opposite.



[1]

Examiner Only	
Marks	Remark

Total Question 9

10 Cans of Cola are sold in packs of 6.

There are 135 children at a party.

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

Answer \_\_\_\_\_ [2]

Total Question 10	

[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 Look at the table below.

It shows the items Ben bought and how much they 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.

Total Question 12	

Answer £ \_\_\_\_\_ [3]

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











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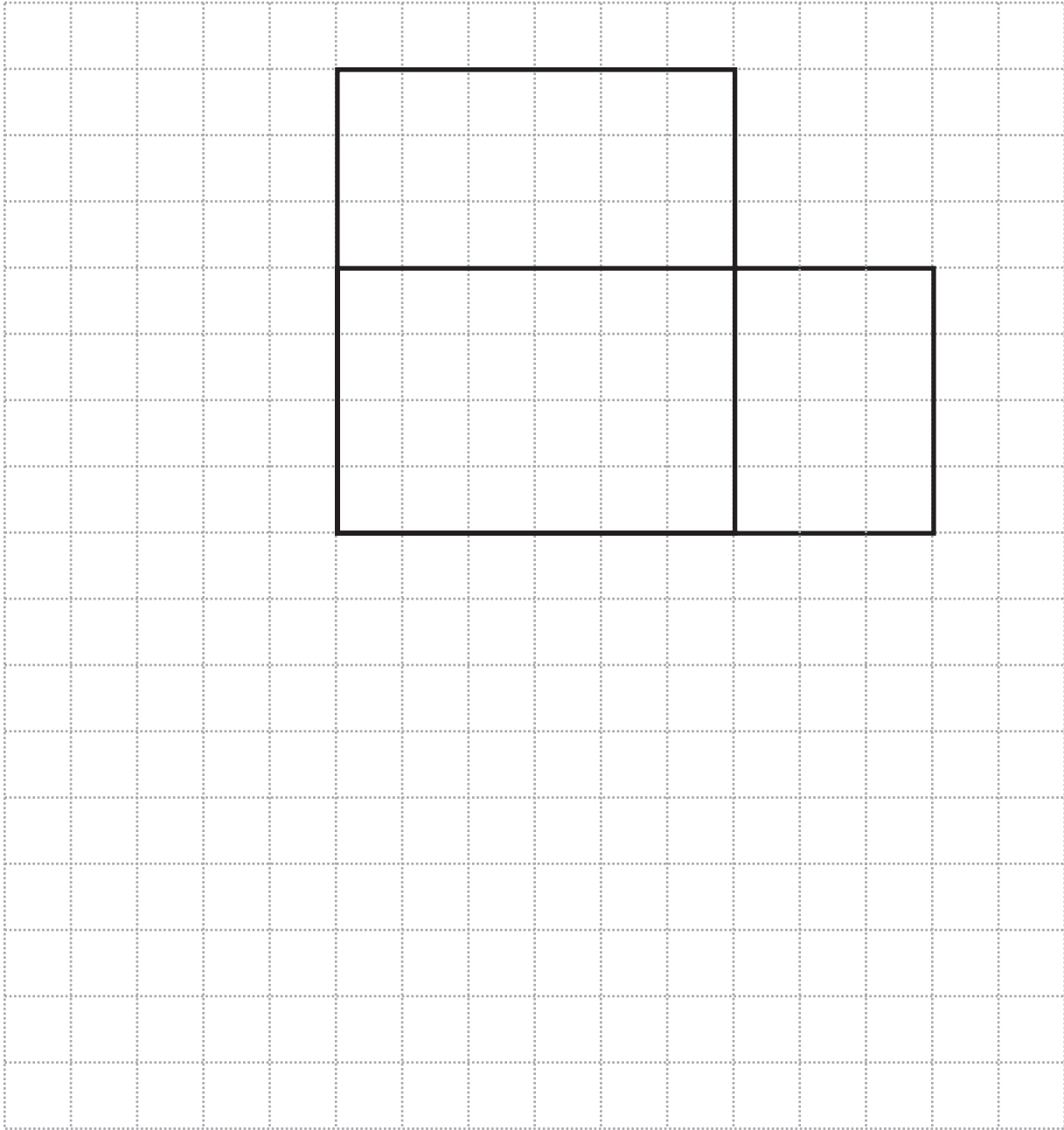
**(Questions continue overleaf)**

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**[Turn over**



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

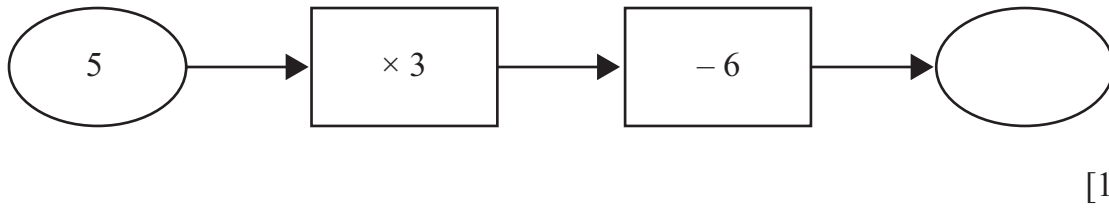


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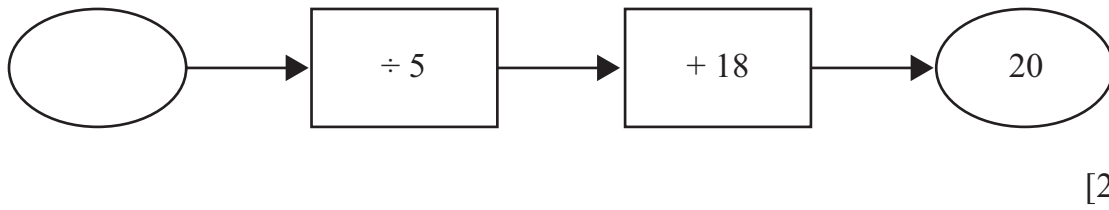
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Marks	Remark
Total Question 18	

[Turn over

19 (a) Fill in the missing number.



(b) Fill in the missing number.



Examiner Only	
Marks	Remark
Total Question 19	

20 Here is a sequence of numbers

0, 0.2, 0.5, 0.9, .....

(a) What is the next number in this sequence?

Answer \_\_\_\_\_ [1]

(b) Explain how to get each new number in this sequence.

\_\_\_\_\_  
\_\_\_\_\_ [1]

Total Question 19	
Total Question 20	

21 Calculate

(a)  $\sqrt{7.84} - 1.3^2$  Answer \_\_\_\_\_ [2]

(b)  $\frac{1}{0.4^3}$  Answer \_\_\_\_\_ [1]

Total Question 20	
Total Question 21	



22 There were 304 000 flights from 10 UK airports. 74% of these flights 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 She also bought some shrubs. Each shrub cost £3.15  
The total cost was £31.65  
How many shrubs did she buy?

Answer \_\_\_\_\_ [3]

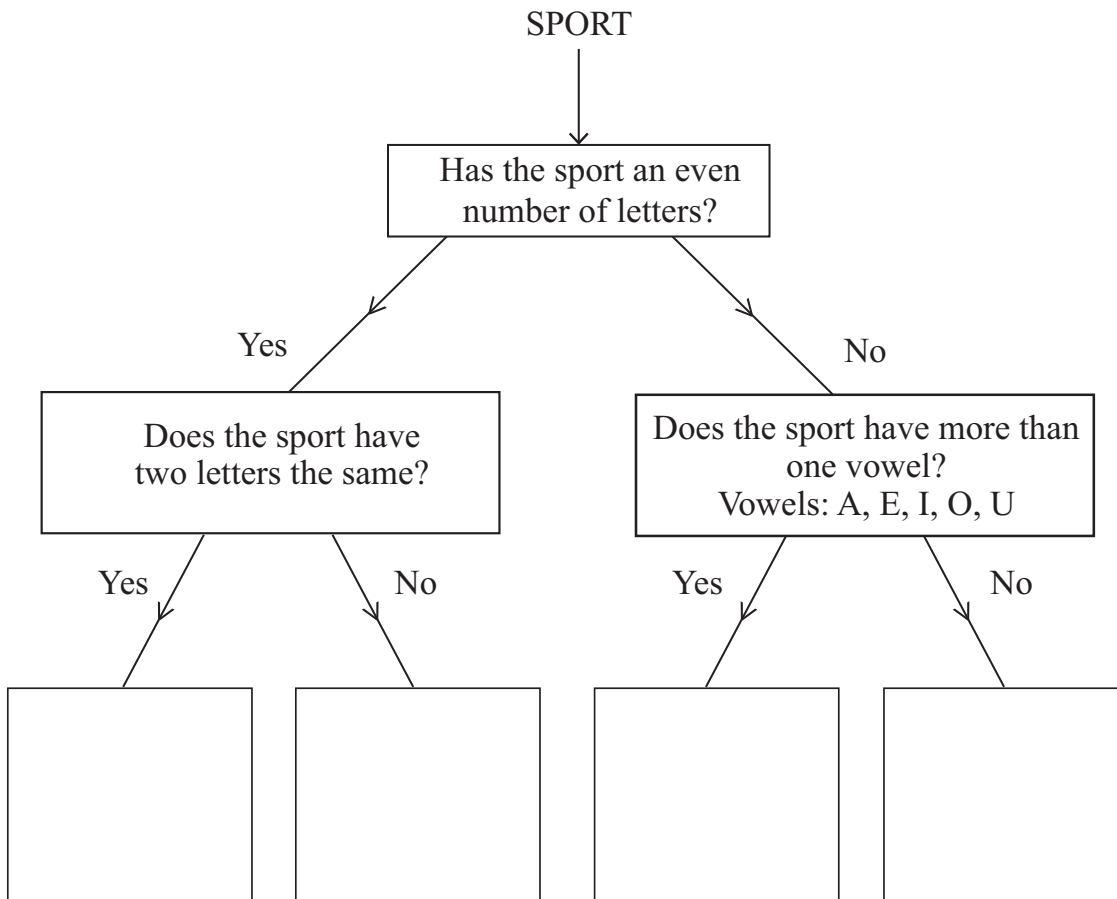
Total Question 23	





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

CYCLING      GYMNASTICS      ROWING      TENNIS



[2]

Examiner Only	
Marks	Remark













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**THIS IS THE END OF THE QUESTION PAPER**

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Question Number	Marks
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<b>Total Marks</b>	
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Examiner Number

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