

Answer ALL TWENTY SIX questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1 The table shows the depth of six ocean trenches.

Trench	Depth (metres)
Diamantina	8047
Eurasian Basin	4437
Philippine	10 540
Puerto Rico	8594
South Sandwich	8458
Tonga	10 882

- (a) Which of these trenches has the greatest depth?

.....  
(1)

- (b) Write down the value of the 5 in the number 8594

.....  
(1)

- (c) Write the number 4437 in words.

.....  
(1)

When written correct to the nearest hundred, one of the numbers in the table is 8500

- (d) What is this number?

.....  
(1)

The Mariana Trench is 2864 metres deeper than the Diamantina Trench.

- (e) Work out the depth of the Mariana Trench.

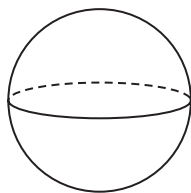
..... metres  
(2)

(Total for Question 1 is 6 marks)

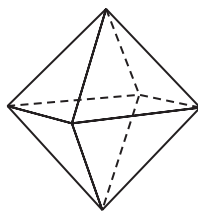


2 The diagram shows some 3-D shapes.

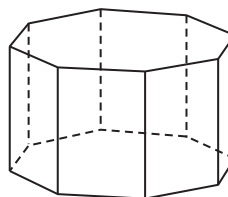
Shape A



Shape B



Shape C



(a) What is the mathematical name of shape A?

.....  
(1)

(b) How many edges has shape B?

.....  
(1)

(c) How many faces has shape C?

.....  
(1)

(Total for Question 2 is 3 marks)

3 Here are the first five terms of a number sequence.

1      3      9      27      81

(a) Find the next term of this sequence.

.....  
(1)

(b) Explain how you found this term.

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

The 9th term of this number sequence is 6561

(c) Find the 10th term of this sequence.

.....  
(1)

(Total for Question 3 is 3 marks)

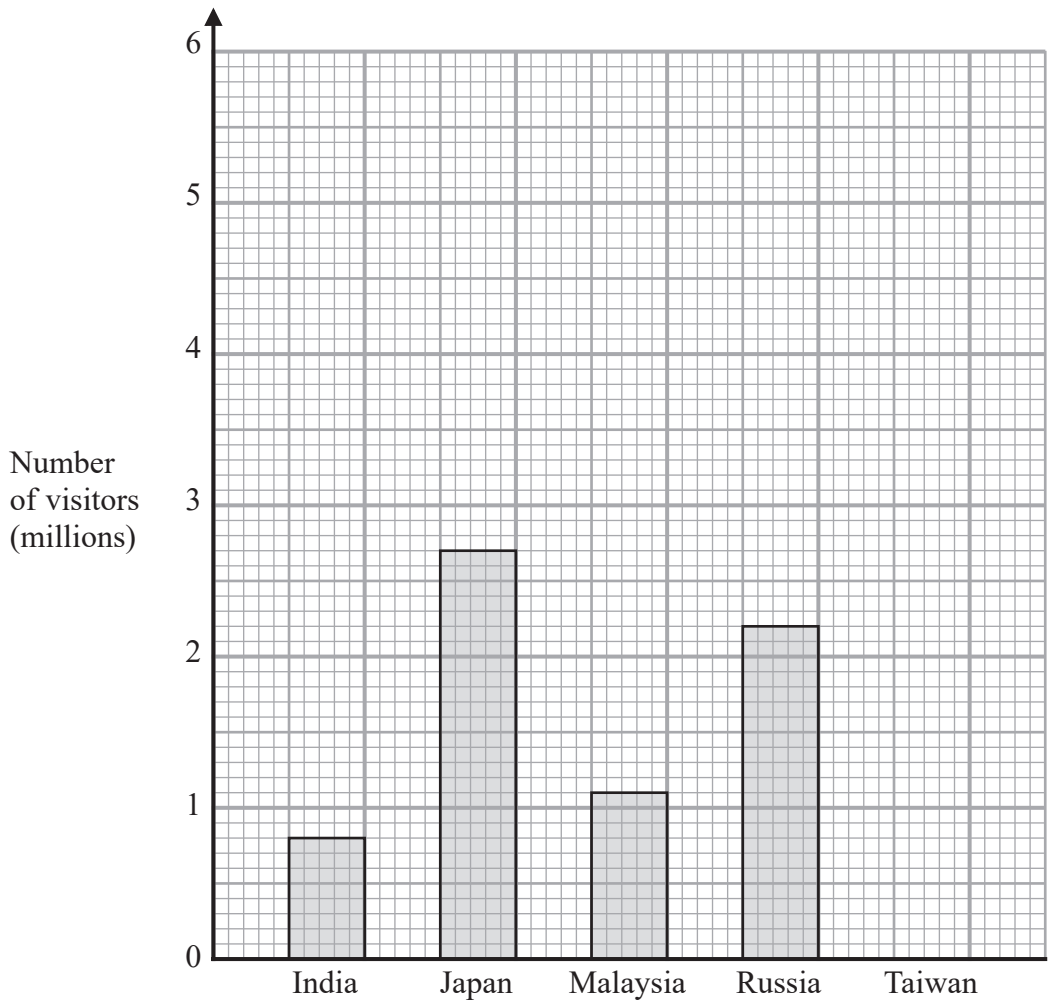


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DO NOT WRITE IN THIS AREA

4 The bar chart shows information about the number of visitors to China from each of four countries in 2015



(a) Write down the number of visitors from Japan.

..... million  
(1)

(b) From which country were there 1.1 million visitors?

.....  
(1)

The number of visitors from Taiwan was 5.4 million.

(c) Draw a bar on the bar chart to show this information.

(1)

The number of visitors from one country was twice the number of visitors from Malaysia.

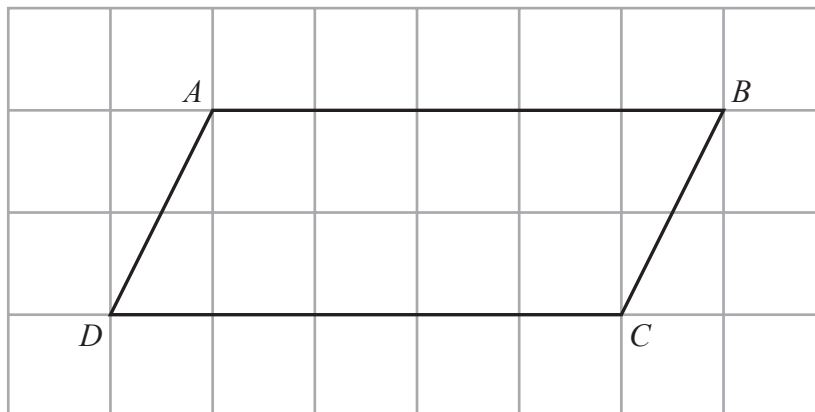
(d) Write down the name of this country.

.....  
(1)

(Total for Question 4 is 4 marks)



- 5 The diagram shows a quadrilateral  $ABCD$  drawn on a square grid.



- (a) Measure the length of  $BC$ .

..... cm  
(1)

- (b) Write down the mathematical name of quadrilateral  $ABCD$ .

.....  
(1)

- (c) Write down the order of rotational symmetry of quadrilateral  $ABCD$ .

.....  
(1)

- (d) On the diagram, mark an obtuse angle with the letter  $x$ .

(1)



Here is a diagram of a trapezium.

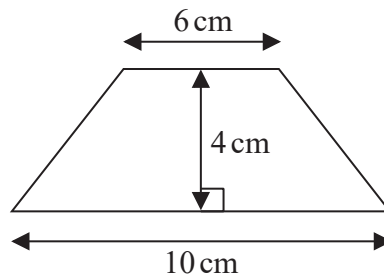


Diagram NOT  
accurately drawn

(e) Work out the area of the trapezium.

..... cm<sup>2</sup>  
(2)

(Total for Question 5 is 6 marks)

6 There are 32 children in a nursery.

Sandeep buys 5 boxes of balloons.  
There are 25 balloons in each box.

Sandeep shares the balloons equally between the 32 children so that each child gets as many balloons as possible.

Work out the number of balloons that are not shared between the 32 children.

.....  
(Total for Question 6 is 4 marks)



7 The diagram shows a trapezium  $ABCD$  in which  $AB$  and  $DC$  are parallel.

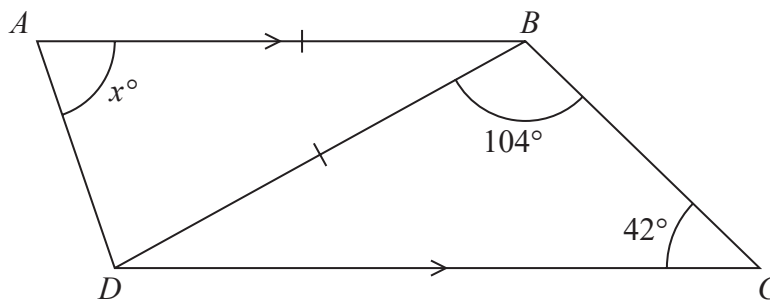


Diagram **NOT** accurately drawn

$AB = DB$

Work out the value of  $x$ .  
Give a reason for each stage of your working.

$x = \dots\dots\dots$

**(Total for Question 7 is 4 marks)**

DO NOT WRITE IN THIS AREA

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DO NOT WRITE IN THIS AREA



- 8 The following rule is used to work out the total cost, in euros, of hiring a room.

Total cost = 9 euros for each hour plus 20 euros

Paolo hires the room for 5 hours.

- (a) Work out the total cost.

..... euros  
(2)

Agathe also hires the room.  
The total cost is 164 euros.

- (b) For how many hours does Agathe hire the room?

..... hours  
(3)

The total cost of hiring the room for  $n$  hours is  $T$  euros.

- (c) Write down a formula for  $T$  in terms of  $n$ .

.....  
(2)

(Total for Question 8 is 7 marks)

