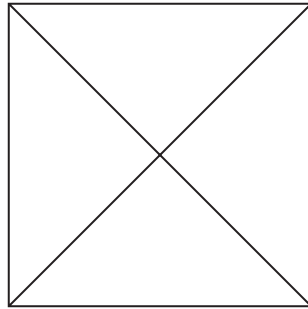


Answer ALL TWENTY SIX questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

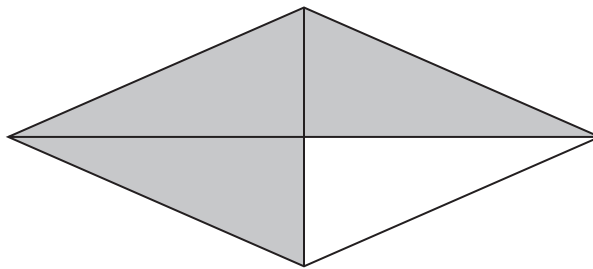
- 1 The diagram shows a square and its diagonals.



- (a) Shade $\frac{1}{4}$ of the square.

(1)

Here is a rhombus.



- (b) What fraction of the rhombus is shaded?

.....
(1)

- (c) Write 0.9 as a fraction.

.....
(1)

(Total for Question 1 is 3 marks)



2 Here is a list of numbers.

3 8 9 14 23 28 30

(a) From the numbers in the list, write down

(i) a cube number

.....
(1)

(ii) a factor of 70

.....
(1)

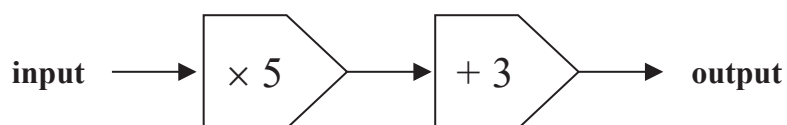
(iii) a multiple of 6

.....
(1)

(iv) a prime number.

.....
(1)

Here is a number machine.



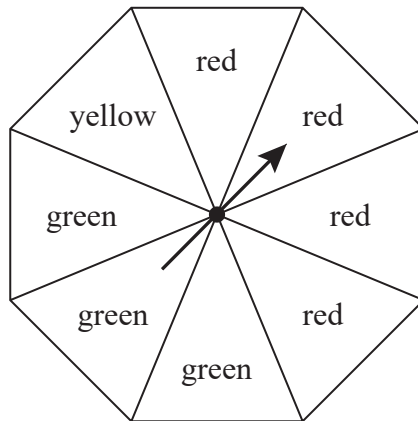
(b) Work out the input when the output is 108

.....
(2)

(Total for Question 2 is 6 marks)



- 3 The diagram shows a fair 8-sided spinner.



Hollie is going to spin the spinner once.

impossible unlikely evens likely certain

- (a) Write down the word from the box above that best describes the likelihood that the spinner will land on

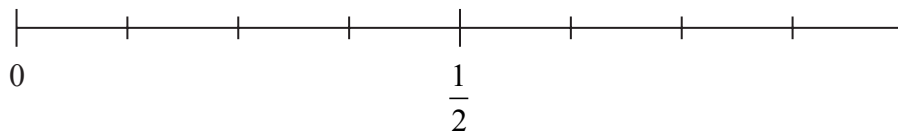
(i) yellow

.....
(1)

(ii) red.

.....
(1)

- (b) On the probability scale below, mark with a cross (×) the probability that the spinner will land on blue.



(1)

(Total for Question 3 is 3 marks)

- 4 The table below shows the maximum recorded temperature and the minimum recorded temperature on one day in each of four countries.

Country	Maximum recorded temperature	Minimum recorded temperature
Morocco	19°C	11°C
Qatar	21°C	18°C
Finland	-19°C	-28°C
Canada	8°C	-40°C

- (a) Which country has the highest maximum recorded temperature?

.....
(1)

- (b) Work out the difference between the maximum recorded temperature in Finland and the minimum recorded temperature in Finland.

..... °C
(1)

On the same day, the minimum recorded temperature in Japan is 15°C lower than the minimum recorded temperature in Morocco.

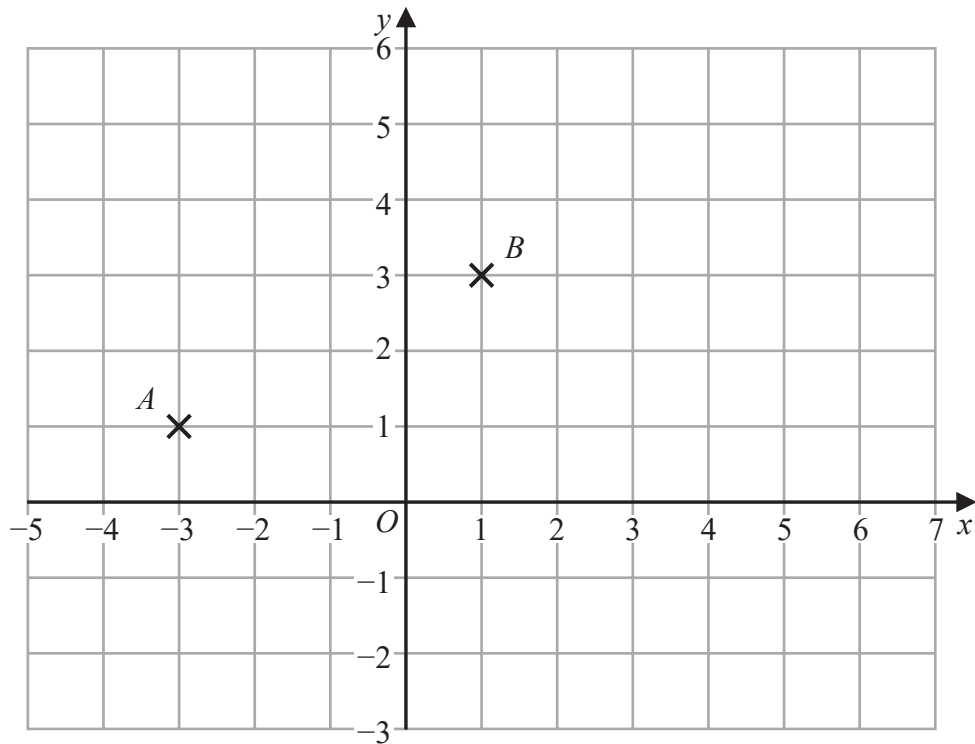
- (c) Work out the minimum recorded temperature in Japan.

..... °C
(1)

(Total for Question 4 is 3 marks)



- 5 The diagram shows points A and B marked on a grid of squares.



- (a) On the grid, draw the line with equation $y = -2$

(1)

M is the midpoint of AB

- (b) Find the coordinates of M

(.....,)
(2)

D is the point with coordinates $(5, d)$ where $d > 0$
The triangle ABD is an isosceles triangle.

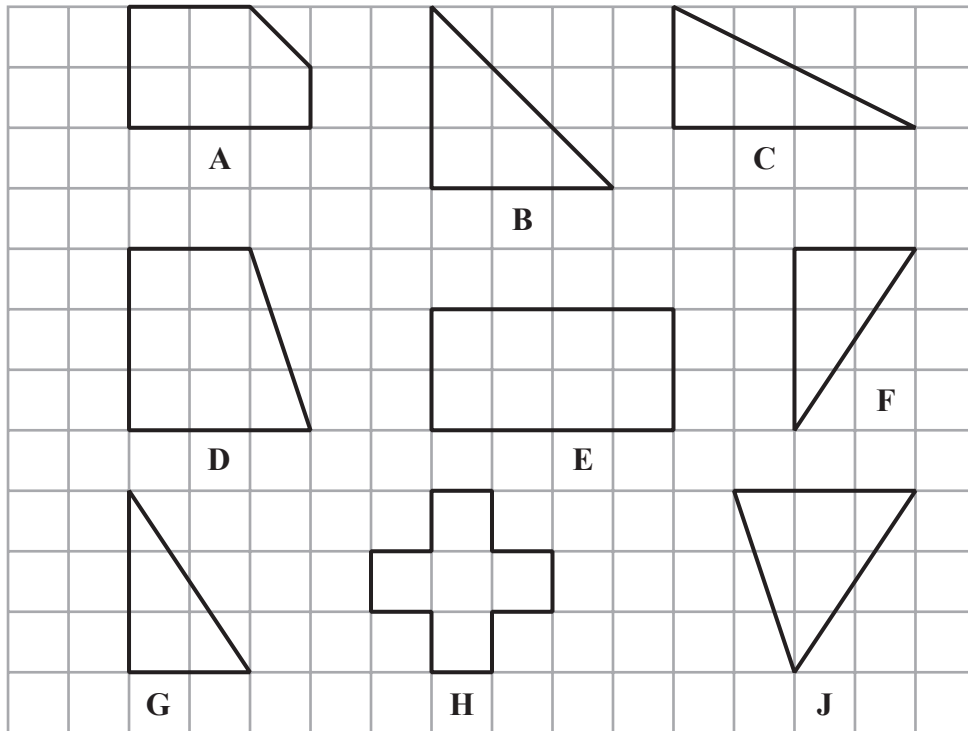
- (c) Find the value of d

$d =$
(1)

(Total for Question 5 is 4 marks)



6 Here are nine shapes drawn on a grid of squares.



Shape **D** is a quadrilateral.

(a) What is the mathematical name of this quadrilateral?

.....
(1)

One of the shapes is congruent to shape **G**

(b) Write down the letter of this shape.

.....
(1)

(c) Write down the order of rotational symmetry of shape **H**

.....
(1)

(d) How many lines of symmetry has shape **E**?

.....
(1)

(Total for Question 6 is 4 marks)



7 $\frac{3}{8}$ of the members of a squash club are children.

$\frac{5}{6}$ of these children are right-handed.

What fraction of the members of the squash club are right-handed children?

Give your answer as a fraction in its simplest form.

Show your working clearly.

.....
(Total for Question 7 is 3 marks)

8 By writing each value correct to one significant figure, work out an estimate for the value of

$$\frac{8.23 \times 181}{0.482}$$

Show your working clearly.

.....
(Total for Question 8 is 3 marks)



9 The diagram shows triangle ABD

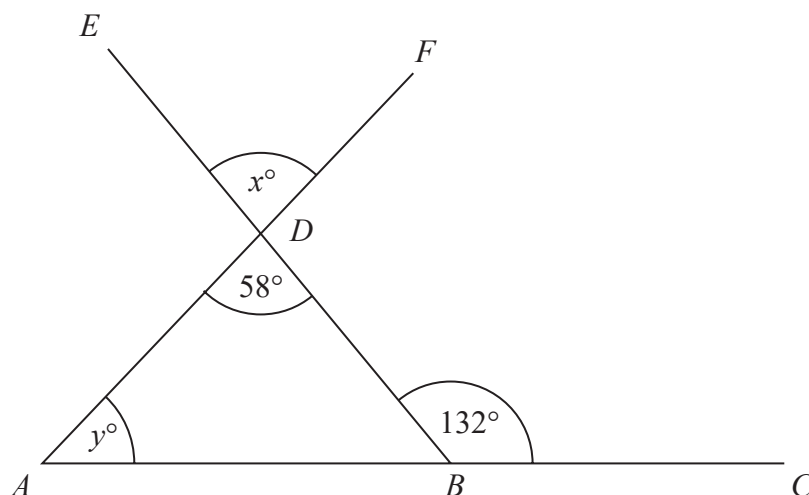


Diagram NOT accurately drawn

ABC , BDE and ADF are straight lines.

angle $CBD = 132^\circ$ angle $ADB = 58^\circ$

(a) (i) Write down the value of x

$x = \dots\dots\dots$

(ii) Give a reason for your answer.

(2)

(b) Work out the value of y

$y = \dots\dots\dots$

(2)

(Total for Question 9 is 4 marks)



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

10 In a library there are two trolleys of books.

On trolley 1 the subjects of the books are Buildings (B), Rivers (R) and Space (S).

On trolley 2 the subjects of the books are Buildings (B), History (H) and Animals (A).

Tomos takes one book from trolley 1 and one book from trolley 2

Write down all the possible combinations of subjects that Tomos can take.

.....

.....

(Total for Question 10 is 2 marks)



P 6 9 2 0 2 A 0 1 1 2 8