

Properties of 2D Shapes

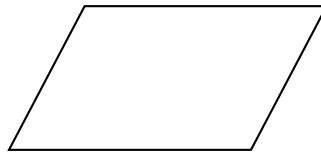
For Pearson Edexcel GCSE Mathematics (1MA1) • Foundation tier

Name _____

Total marks: **23**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

- 1** The diagram shows a shape with four sides.



Write down the mathematical name of this shape.

.....
(1)

(Total for Question 1 is 1 mark)

- 2** (a) Here are five angles.

25° 90° 118° 180° 245°

Write down the angle from the list that is obtuse.

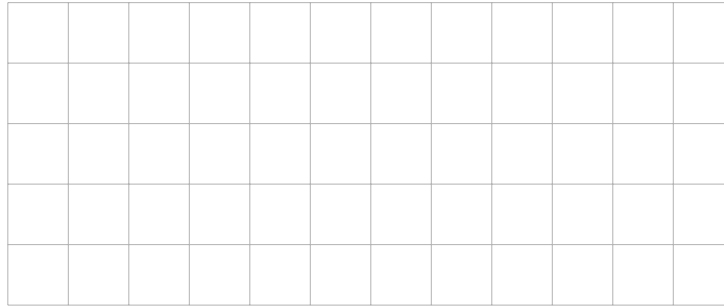
.....
(1)

- (b) Explain why a triangle cannot have two obtuse angles.

(1)

(Total for Question 2 is 2 marks)

3 Here is a grid.



(a) On the grid, draw a triangle that has an obtuse angle.

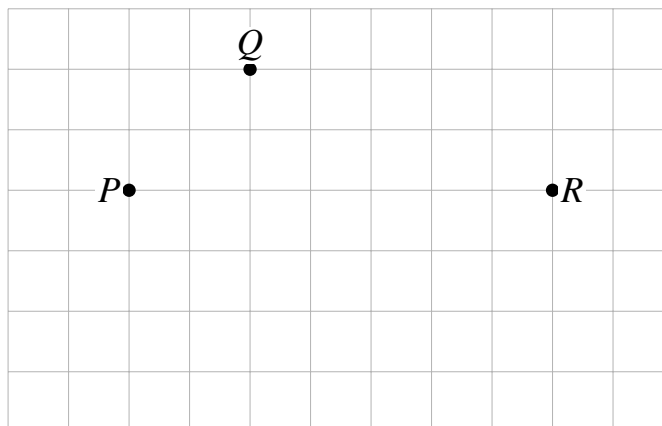
(1)

(b) On the same grid, draw a trapezium that has one line of symmetry.

(1)

(Total for Question 3 is 2 marks)

4 Points P , Q and R are three of the corners of a kite $PQRS$.
The line PR is a line of symmetry of the kite.

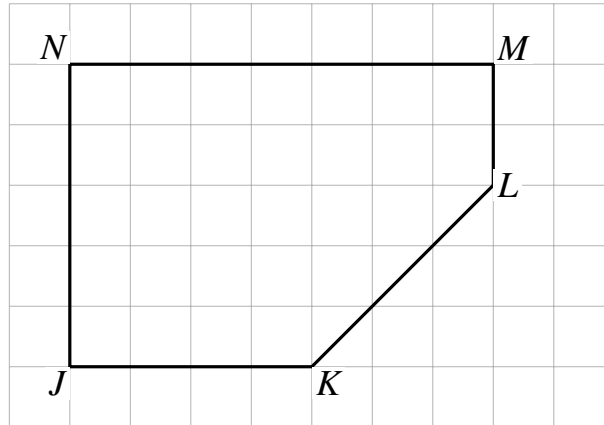


On the grid, plot the point S and complete the kite $PQRS$.

(1)

(Total for Question 4 is 1 mark)

- 5 Here is polygon $JKLMN$ on a square grid.



- (a) Write down the mathematical name of the polygon.

.....
(1)

- (b) Write down two sides of the polygon that are parallel to each other.

.....
(1)

- (c) What type of angle is angle JKL ?

.....
(1)

(Total for Question 5 is 3 marks)

- 6** (a) Write down the number of lines of symmetry of a regular pentagon.

.....
(1)

- (b) Write down the order of rotational symmetry of a parallelogram.

.....
(1)

(Total for Question 6 is 2 marks)

- 7** Write down the mathematical name of the shape that

- (a) has 4 equal sides and 4 right angles

.....
(1)

- (b) has 2 pairs of parallel sides, no right angles and sides that are not all equal

.....
(1)

- (c) is a triangle with exactly 2 equal sides and 2 equal angles

.....
(1)

(Total for Question 7 is 3 marks)

- 8** Write down two properties of the diagonals of a rhombus.

(2)

(Total for Question 8 is 2 marks)

- 9** The perimeter of an equilateral triangle is 27 cm.
A square has sides the same length as the sides of the triangle.
Work out the perimeter of the square.

..... cm

(2)

(Total for Question 9 is 2 marks)

- 10** A rhombus has diagonals of length 6 cm and 4 cm.
On the centimetre grid, draw the rhombus.



(2)

(Total for Question 10 is 2 marks)

- 11 $ABCD$ is a kite.
 $AB = BC = (x + 3)$ cm
 $AD = CD = (3x - 1)$ cm

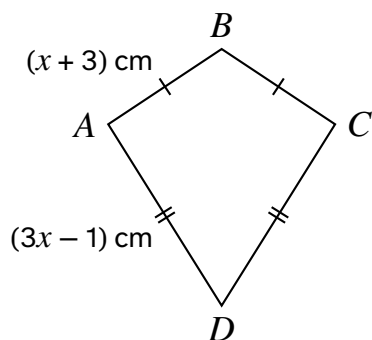


Diagram **NOT** accurately drawn

The perimeter of the kite is 36 cm.
Work out the length of AD .

..... cm
(3)

(Total for Question 11 is 3 marks)
