G012 Coordinates and 2D shapes

Q1.

(a) (i) Write down the coordinates of the point G.
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(ii) Write down the coordinates of the point H.
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(b) Find the coordinates of the midpoint of GH.
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(Total for Question is 4 marks)
Q2.

Here is a coordinate grid.

(a) Write down the coordinates of the point $M$.

$\ldots, \ldots$

(1)

$LM$ is the shortest side of an isosceles triangle.

(b) Mark with a cross (×) a point $N$, so that $LNM$ is an isosceles triangle.

(2)

(Total for Question is 3 marks)
Q3.

(a) Write down the coordinates of the point \( P \).

\( (\ldots, \ldots) \)  

(1)

(b) Write down the coordinates of the point \( R \).

\( (\ldots, \ldots) \)  

(1)

\( P, Q \) and \( R \) are three vertices of a parallelogram.

(c) Write down the coordinates of the fourth vertex of this parallelogram.

\( (\ldots, \ldots) \)  

(1)

(Total for Question is 3 marks)
Q4.

The points $A$, $B$, $C$, $D$, $E$ and $F$ are shown on the grid.

One of these points has coordinates $(4, 1)$.

(a) Which point?

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(1)

(b) (i) On the grid, mark with a cross ($\times$) a point $P$ such that the shape $ABCP$ is a kite.

Label your point $P$.

(ii) Write down the coordinates of your point $P$.

..................................................................................................................

(2)

(Total for question = 3 marks)
Q5.

(a) (i) Write down the coordinates of the point \( A \). 
\[( \ldots \ldots \ldots \ldots , \ldots \ldots \ldots \ldots )\]

(ii) Write down the coordinates of the point \( B \). 
\[( \ldots \ldots \ldots \ldots , \ldots \ldots \ldots \ldots )\]

(b) On the grid, mark with a cross the point \((3, -4)\). Label this point \( C \).

(Total for Question is 3 marks)
Q6.

(a) Write down the coordinates of point $C$.

\[ (................................., .................................) \]

(1)

(b) Write down the coordinates of the midpoint of $AB$.

\[ (................................., .................................) \]

(1)

(c) On the grid, mark with a cross (×) the point $D$ so that $ABCD$ is a square. Label this point $D$.

(1)

(Total for Question is 3 marks)
Q7.
(a) On the grid, draw a kite.

(b) Here is a quadrilateral.

Write down the special name of this quadrilateral.

(Total for Question is 2 marks)

Q8.
Here is a polygon.

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

Here is a straight line.

(b) In the space above, draw a line parallel to this line.

(Total for question = 2 marks)
Q9.

Here are nine shapes.

(a) Write down the letter of a shape that has exactly one line of symmetry.

...........................................................

(1)

Two of these shapes have rotational symmetry of order 2 and no lines of symmetry.

(b) Write down the letters of these two shapes.

........................................................... and ...........................................................

(2)

Shape D is a polygon.

(c) Write down the mathematical name of this type of polygon.

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(1)

Shape E is a quadrilateral.

(d) Write down the mathematical name of this type of quadrilateral.

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(1)

(Total for Question is 5 marks)
Q10.

Here are five shapes on a grid of squares.

(a) Write down the letter of the shape that is a rhombus.

...........................................................

(1)

(b) How many lines of symmetry does shape C have?

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(1)

Two of the shapes have rotational symmetry of order 2
(c) Write down the letters of these two shapes.

........................................................... and ...........................................................

(1)

(Total for question = 3 marks)
Q11.

Here is a parallelogram.

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

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(1)

Here is a shape.

(b) Draw all the lines of symmetry on this shape.

(2)

(Total for question = 3 marks)

Q12.

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

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(1)

(b) How many sides has an octagon?

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(1)

(Total for question = 2 marks)
Q13.

Here is a polygon.

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

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

(b) Draw a sketch of a hexagon.

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

(c) In the space below, draw accurately a rectangle with a length of 5 cm and a width of 3 cm.

........................................................................................................ (2)

(Total for Question is 4 marks)