Past Papers Worksheet P2 **Symmetry** **IGCSE Mathematics 0580**

1. Draw the lines of symmetry of the rectangle. [2]



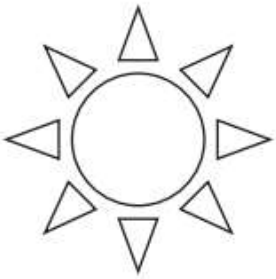
2. A quadrilateral has one line of symmetry and no rotational symmetry.
   Write down the name of this quadrilateral [1]

3. A quadrilateral has rotational symmetry of order 2 and no lines of symmetry.s
   Write down the mathematical name of this quadrilateral. [1]

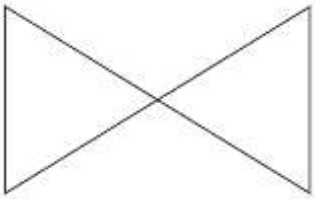
4. **Z E B R A**
   Write down the letters in the word above that have
   (a) exactly one line of symmetry, [1]
   (b) rotational symmetry of order 2 [1]

5. **T R I G O N O M E T R Y**
   From the above word, write down the letters which have
   (a) exactly two lines of symmetry, [1]
   (b) rotational symmetry of order 2. [1]

6. Write down the order of rotational symmetry of this shape. [1]



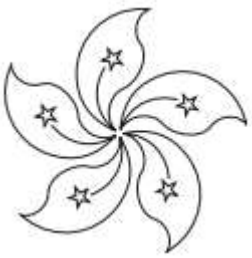
7. (a) Complete this statement.
   The diagram has rotational symmetry of order ..... [1]
   (b) On the diagram, draw all the lines of symmetry. [2]



8. For the diagram, write down
   (a) the order of rotational symmetry, [1]
   (b) the number of lines of symmetry. [1]



9. For the diagram, write down
   (a) the order of rotational symmetry, [1]
   (b) the number of lines of symmetry. [1]

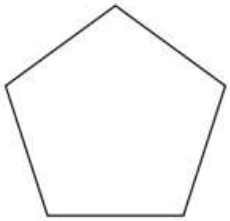


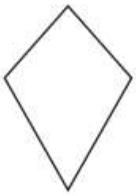
10. For the diagram above write down
    (a) the order of rotational symmetry, [1]
    (b) the number of lines of symmetry. [1]



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11. The diagram shows a regular pentagon and a kite.





Complete the following statements.

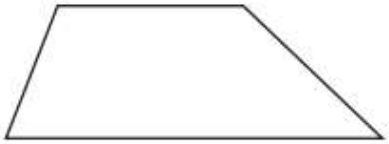
(a) The regular pentagon has ..... lines of symmetry. [1]

(b) The kite has rotational symmetry of order ..... . [1]

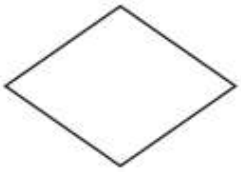
12. Write down which one of these shapes has



Parallelogram



Trapezium



Rhombus

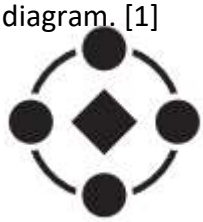
rotational symmetry of order 2 **and** no line symmetry. [1]

13. (a) The diagram shows a cuboid

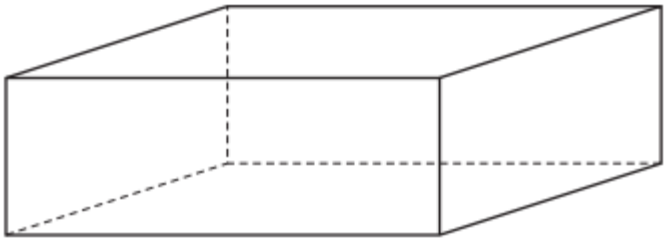


How many planes of symmetry does this cuboid have? [1]

(b) Write down the order of rotational symmetry for the following diagram. [1]

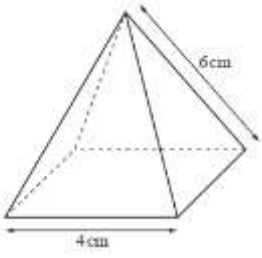


14. The diagram shows a cuboid which has no square faces.



Draw one of the planes of symmetry of the cuboid on the diagram.

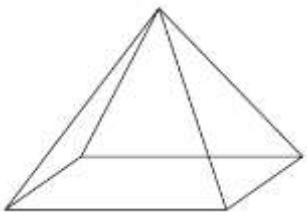
15. The diagram shows a pyramid with a square base.



The triangular faces are congruent isosceles triangles

Write down the number of planes of symmetry of this pyramid [1]

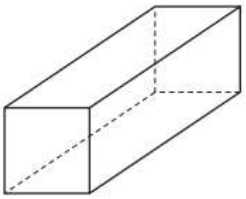
16. The pyramid below has a rectangular base.



The vertex of the pyramid is vertically above the centre of the base.

Write down the number of planes of symmetry for the pyramid. [1]

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17. (a) This cuboid has a square cross-section.
Write down the number of planes of symmetry. [1]
(b) This cuboid has a **rectangular** cross-section.
The axis shown passes through the centre of two opposite faces.
Write down the order of rotational symmetry of the cuboid about this axis. [1]

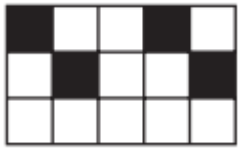
18. (a) Add **one** line to the diagram so that it has two lines of symmetry [1]



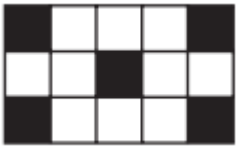
(b) Add **two** lines to the diagram so that it has rotational symmetry of order 2.[1]



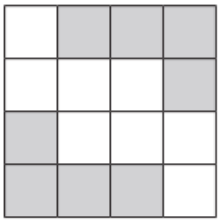
19. (a) Write down the number of lines of symmetry for the diagram below. [1]



(b) Write down the order of rotational symmetry for the diagram below. [1]



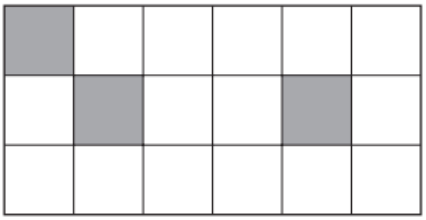
20. Write down the order of rotational symmetry of the diagram. [1]



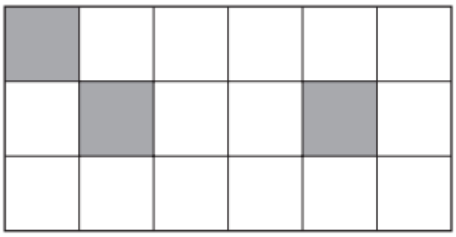
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21. (a) Shade one square in each diagram so that there is

(i) one line of symmetry, [1]



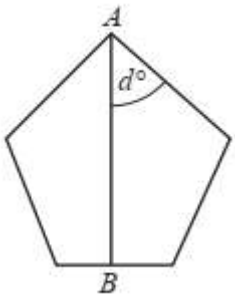
(ii) rotational symmetry of order 2. [1]



22. The diagram shows a regular pentagon.

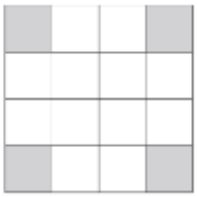
AB is a line of symmetry.

Work out the value of d [3]



23. (a) Write down the order of rotational symmetry of this diagram. [1]

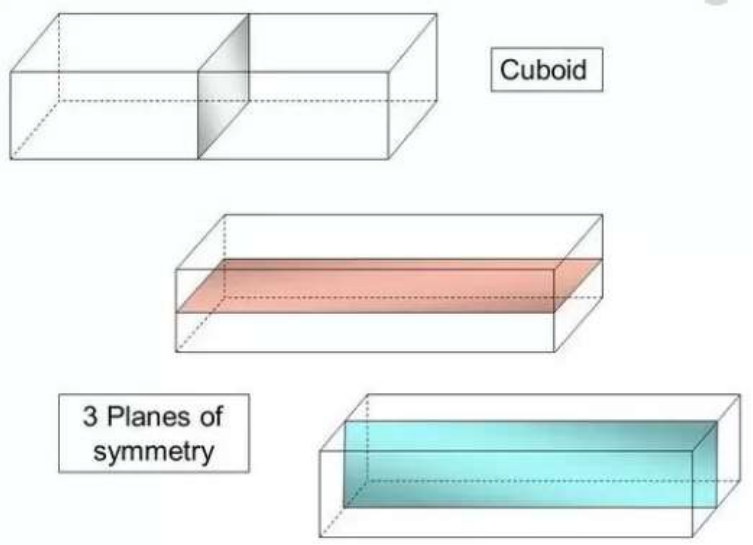
(b) On the diagram, draw all the lines of symmetry. [2]



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Answers

1) one horizontal and one vertical 2) kite or isosceles trapezium 3)parallelogram 4)(a)E, B, A (b)Z 5)(a)I , (b)I , N 6)8 7(a)2 8)(a)1 (b)1 9)(a)5 (b)0 10)(a)6 (b)0 11)(a)5 (b)1 12)parallelogram 13)(a)3 (b)4 14) plane across centre of shape (3 possibilities)



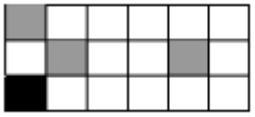
15)4 16)2 17)(a)5(b)2

18 (a)  (b) Some possible answers:

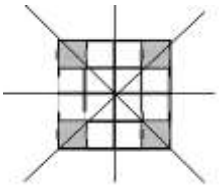


19)(a)0 (b)2

20)2

21 (a)  or  (b) 

22)54

23) (a)4 (b) 

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