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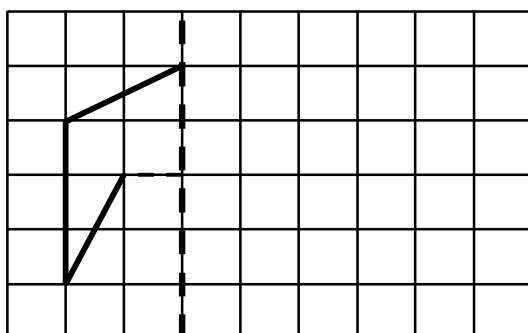
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MATHEMATICS {IGCSE -X}

Symmetry

1. Complete the following diagram, using the least number of line segments, so that the dotted line is an axis of symmetry.



[2]

2. a. What type of triangle has exactly one line of symmetry?

Answer (a)[1]

- b. What type of triangle has exactly three lines of symmetry?

Answer (b)[1]

3. a. What type of quadrilateral has exactly two lines of symmetry which are its diagonals?

Answer (a)[1]

- b. What type of quadrilateral has exactly two lines of symmetry which are **not** its diagonals?

Answer (b)[1]

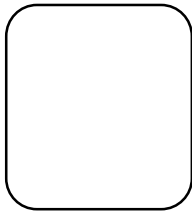
- c. What type of quadrilateral has exactly one line of symmetry which is one of its diagonals?

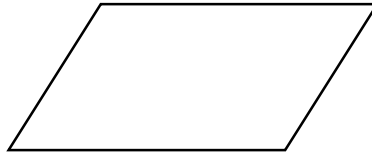
Answer (c)[1]

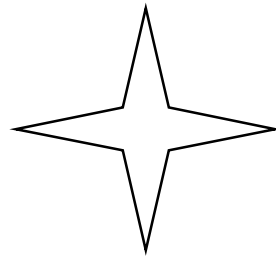
- d. What type of quadrilateral has exactly one line of symmetry which is not one of its diagonals?

Answer (d)[1]

4. For each of these shapes write down the order of rotational symmetry.

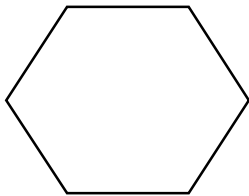


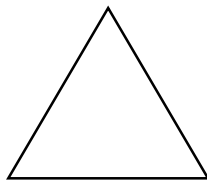


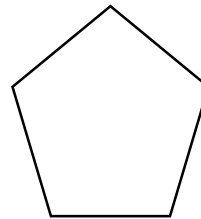


[3]

5. State the order of rotational symmetry of the following shapes.

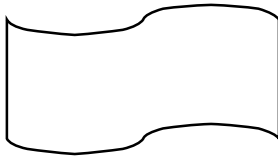


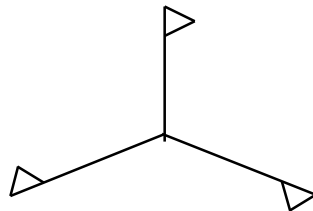


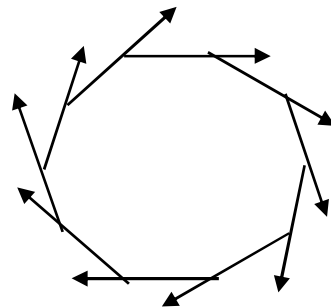


[3]

6. For each of these shapes write down the order of rotational symmetry.

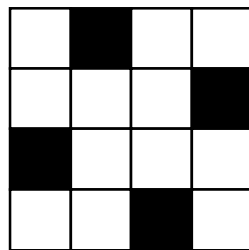






[3]

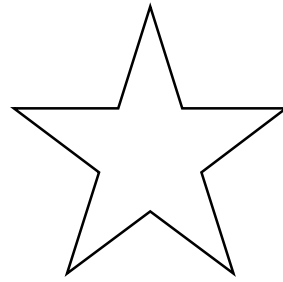
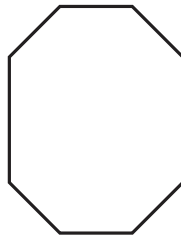
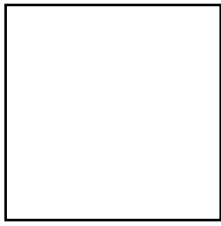
- 7.



State the order of rotational symmetry of the diagram above.

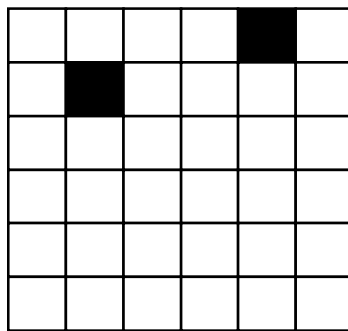
[1]

8. For each of these shapes write down the order of rotational symmetry.



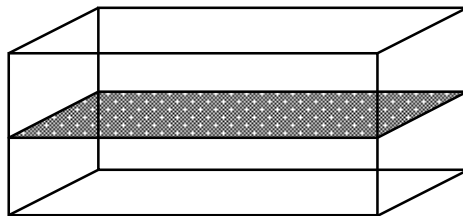
[3]

9. Shade in the minimum number of squares so that this square grid has rotational symmetry of order 4.



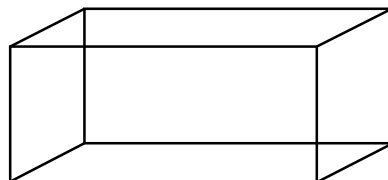
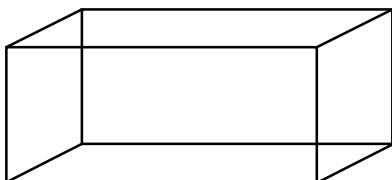
[2]

10. The diagram below shows a cuboid with one of its planes of symmetry shaded.



- a. On each of the two copies below of the cuboid indicate by shading two different planes of symmetry.

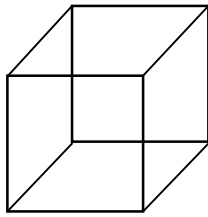
[2]



- b. How many planes of symmetry does a cuboid have in total?

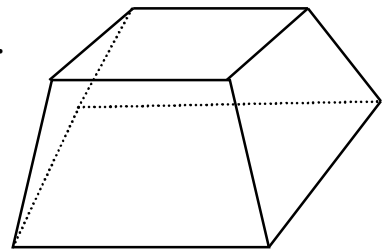
Answer (b) [1]

11. How many planes of symmetry does a cube have?



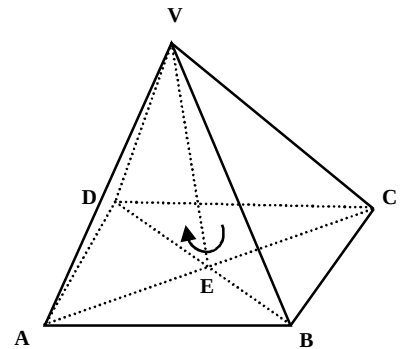
Answer [1]

12. The top and base of the solid are parallel squares.
The four sloping faces are congruent, and the
four sloping edges are equal.
State the number of planes of symmetry.



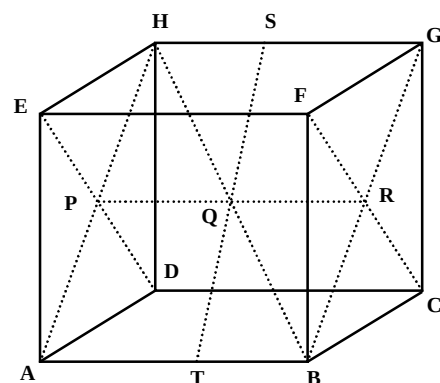
Answer [1]

13. The diagram represents a pyramid on a square base.
State the order of rotational symmetry
about the axis EV.



Answer [1]

14. The diagram represents a cube.
State the order of rotational symmetry
about the axis.



Answer (a) [1]

- b. ST.

Answer (b)[1]

- c. HB.

Answer (c)[1]