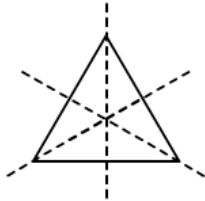# Reflection and Rotational Symmetry
Ex 18B

Q1

Answer :

(i) An equilateral triangle has 3 lines of symmetry.

(ii) The number of positions a figure can be rotated to, without bringing in any changes to the way it looked originally, is called its order of rotational symmetry.
So, the order of rotational symmetry of an equilateral triangle is 3.

Q2

Answer :

If we rotate a rectangle by either 180° or 360°, it will look the same as it looked originally, i.e. it will be symmetrical.
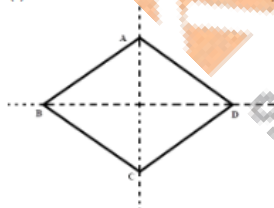
Q3

Answer :

If we rotate the square either by 90°, 180°, 270° or by 360°, the square looks exactly the same.
Therefore, the order of rotational symmetry of a square is 4.

Q4

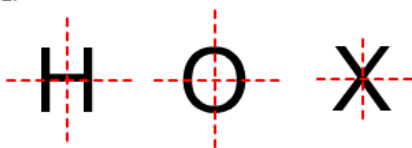**Answer :**

(i) A rhombus has 2 lines of symmetry.

(ii) When we rotate the rhombus either by 180° or by 360°, it looks the same.
Therefore, the rotational symmetry of a rhombus is 2.

Q5

Answer :

H, O and X are the three letters that have 2 lines of symmetry and their order of rotational symmetry is 2.

Q6

Answer :

The line of symmetry of an isosceles triangle is the angle bisector of its vertical angle, which is in-between the equal sides. However, it does not have any rotational symmetry.
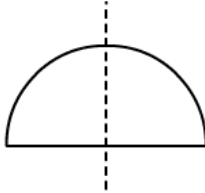
Q7

Answer :

No, every trapezium does not have a line of symmetry.
Only an isosceles trapezium has a line of symmetry.

Q8

Answer :

The perpendicular bisector of the diameter of a circle is its line of symmetry.
No, a semicircle does not have any rotational symmetry as it fits itself only once during a complete rotation.
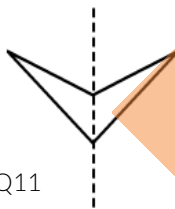
Q9

Answer :

A scalene triangle neither has a line of symmetry nor a rotational symmetry.
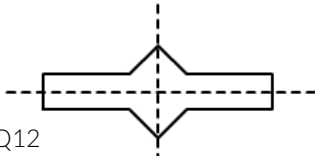
Q10

Answer :

(i) The line of symmetry of the given figure is 1.
(ii) The order of rotational symmetry of the given figure is 0.

Q11

Answer :

(i) The given figure has 2 lines of symmetry.

(ii) The order of rotational symmetry of the given figure is 2.

Q12

Answer :

The example of a letter of the English alphabetic system which has (i) no line of symmetry and (ii) rotational symmetry of order 2 is N.