

LINE OF SYMMETRY

A symmetrical figure has a line of symmetry (or mirror symmetry or reflection symmetry). If there is a line about which it can be folded so that the two equal parts of the figure coincide, that line is called the line of symmetry or axis of symmetry. Look at these figures:

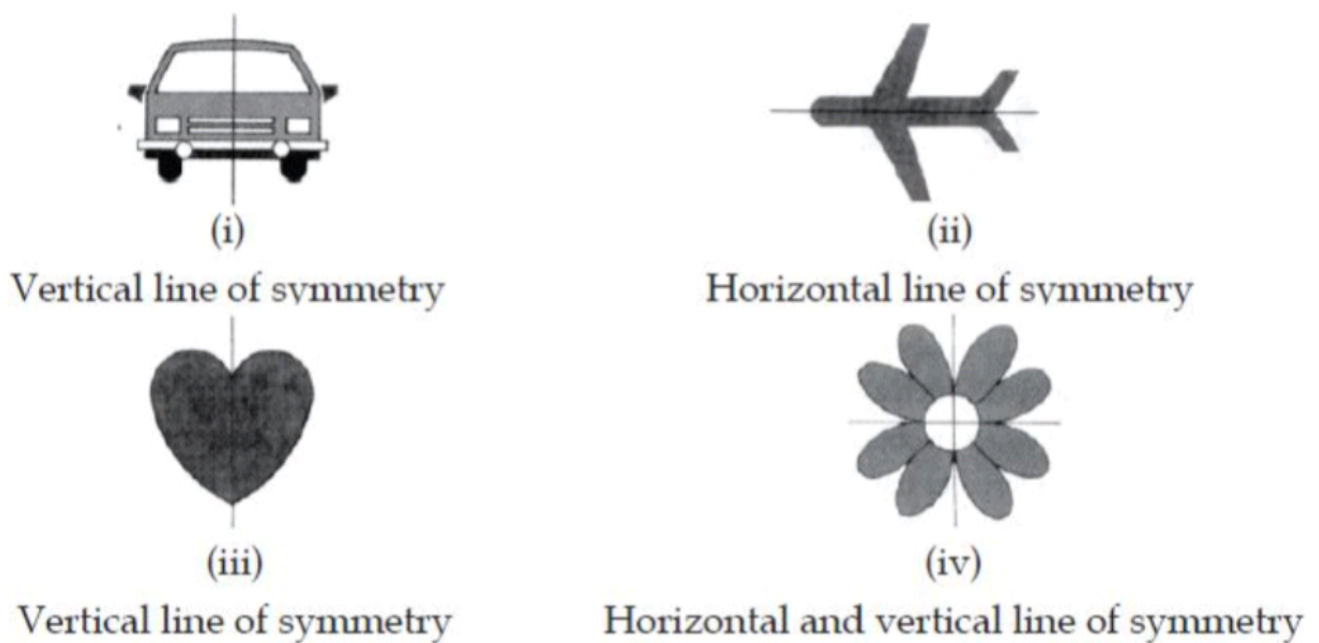
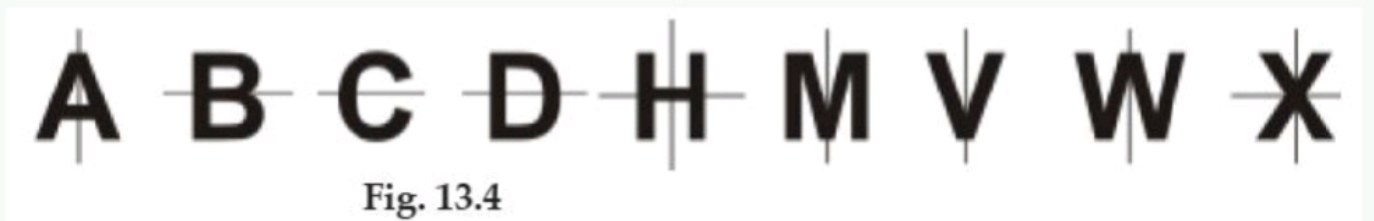


Fig. 13.5

There is line of symmetry in nature but normally we do not notice it.

Symmetry in English Alphabets



You will see that letters like *A, M, V, W* etc., have *vertical lines of symmetry* whereas letters like *B, C, D* etc., have *horizontal lines of symmetry* for letters, like *F, G, J, K* etc., do not show any symmetry.

SYMMETRY IN GEOMETRICAL SHAPES (2-D)

In this section, you will learn about symmetry in geometrical shapes. A geometrical shape may have one or more lines of symmetry.

1. An angle with equal arms has one line of symmetry along its angle bisector. [Fig. 13.10 (i)]

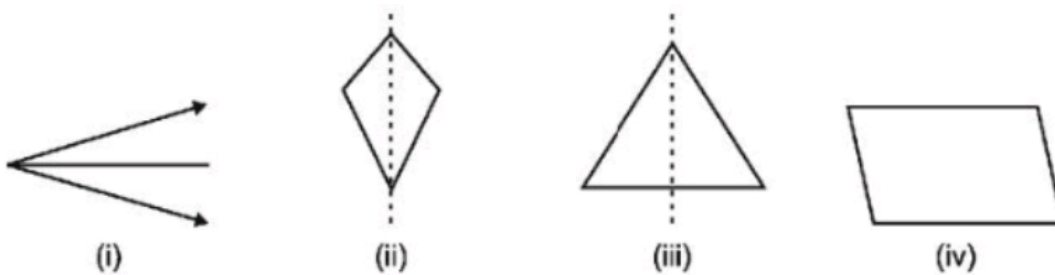


Fig. 13.10

2. A kite has one line of symmetry along its diagonal [Fig 13.10 (ii)].
3. An isosceles triangle has one line of symmetry along the median [Fig. 13.10 (iii)].
4. A parallelogram has no line of symmetry [Fig. 13.10 (iv)].
5. Line segment is symmetrical about its perpendicular bisector.

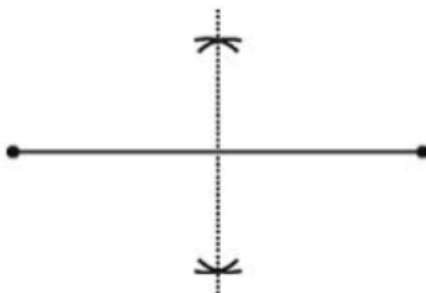


Fig. 13.11

6. A rectangle is symmetrical about the line joining the mid-points of opposite sides of rectangle or square.

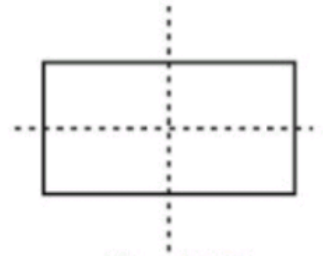


Fig. 13.12

7. A square has 4 lines of symmetry, two along the line segments joining the mid-point of the opposite sides and two along the diagonals.

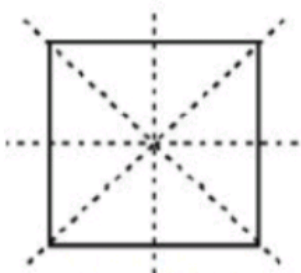


Fig. 13.13

8. An equilateral triangle has three lines of symmetry along the bisectors of the angles.



Fig. 13.14

9. The diameters of circle are lines of symmetry of the circle. A circle has infinite lines of symmetry

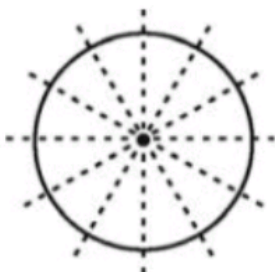


Fig. 13.15

10. Perpendicular segment to the diameter of semicircle at centre is the line of symmetry for a semicircle.

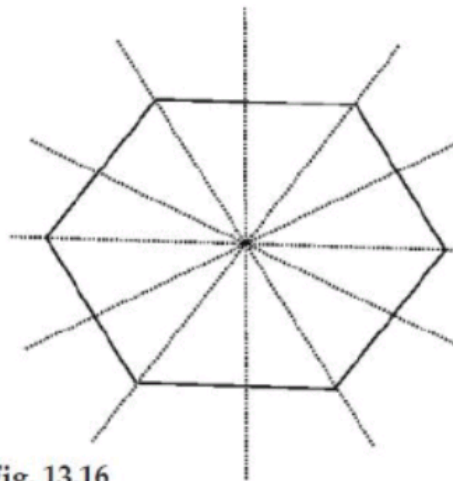
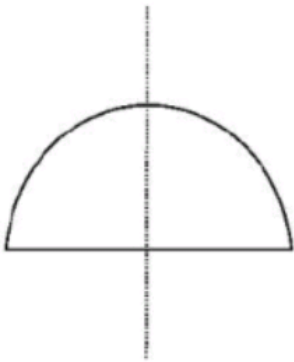


Fig. 13.16

11. A regular hexagon has six lines of symmetry the perpendiculars drawn from vertices to opposite sides.

12. An oval has two lines of symmetry.

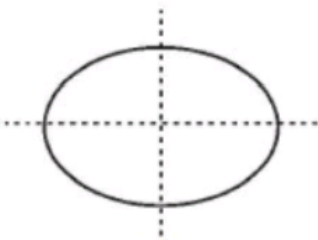


Fig. 13.17

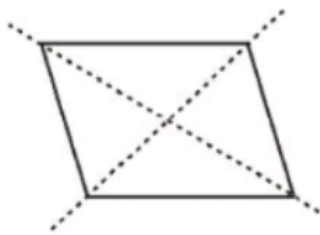


Fig. 13.18

13. A rhombus has two lines of symmetry along its diagonals.