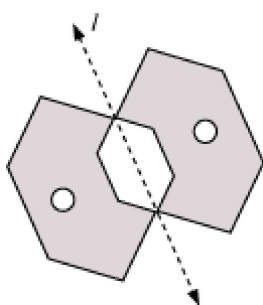# 7. Symmetry

- A figure is said to be symmetrical, if it is in an evenly balanced proportion.

- A figure has line of symmetry, if a line can be drawn dividing the figure into two identical parts in such a way that the two parts are image to each other with respect to the line. The line is called the **line of symmetry.**
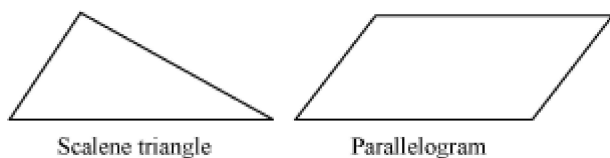 **Example:**

In this figure, the line *l* divides the above figure into two identical parts such that the two parts are image to each other with respect to the line. This line *l* is known as the line of symmetry. So, this figure has a line of symmetry.
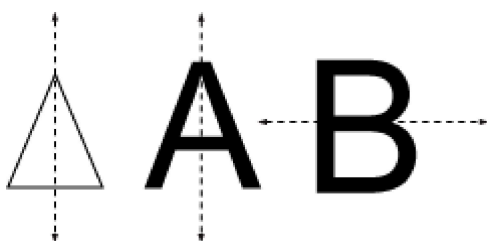
- A figure may have no line of symmetry, only one line of symmetry, or multiple lines of symmetry.
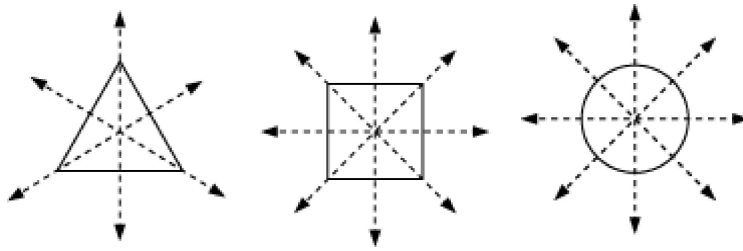 **Example:**

  - A scalene triangle and a parallelogram has no line of symmetry.

    Scalene triangle   Parallelogram

  - An isosceles triangle, English alphabets A, B etc. shows one line of symmetry.

  - An equilateral triangle, a square, a circle, etc., show multiple lines of symmetry.

- If a vertical line divides the figure into two identical parts such that the two parts are image to each other with respect to the line, then we say that the figure has a vertical line of symmetry.
  Example: In the previous example, the isosceles triangle and the English alphabet A have vertical lines of symmetry.

- If a horizontal line divides a figure into two identical parts such that the two parts are image to each other with respect to the line, then we say that the figure has a horizontal line of symmetry.
  Example: In the previous example, the English alphabet B has a horizontal line of symmetry.

- The complete figure can be obtained by tracing the given figure below its line of symmetry.

Here, the dotted line is the line of symmetry of the figure. Thus, the complete figure will be represented as: