

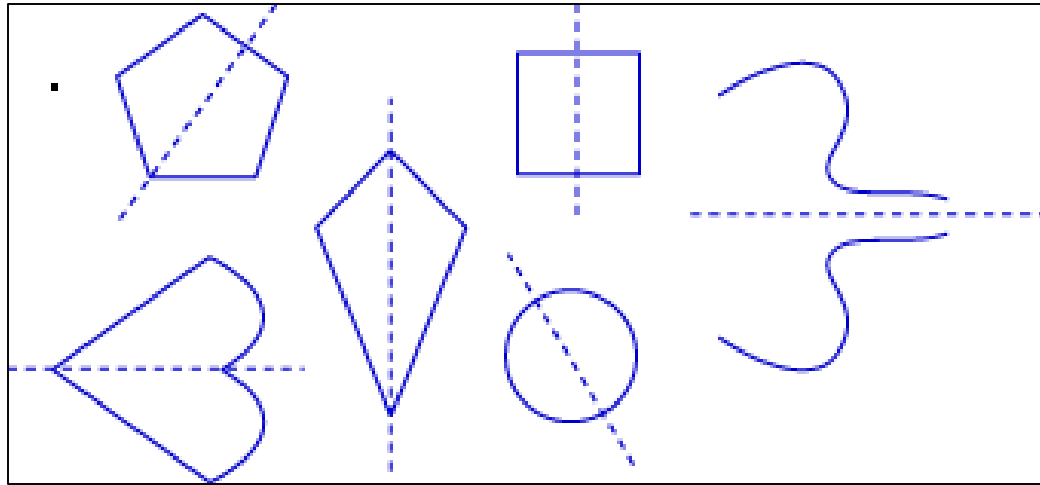
Symmetry

Chapter - XIII

Introduction

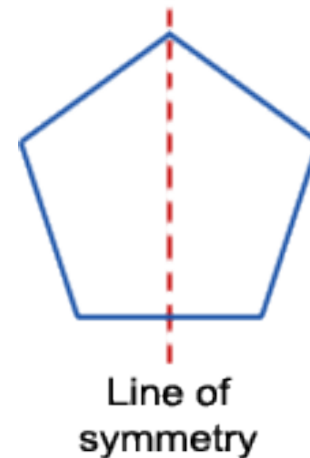
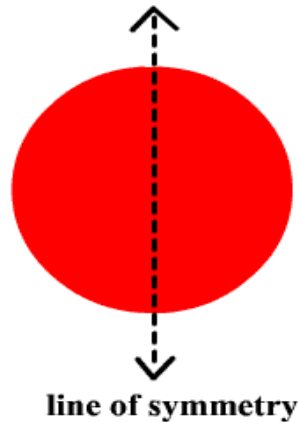
- Certain figures are beautiful because they are proportionate in their shape. Sometimes they are called **symmetrical figures**.
- In this chapter we shall study **what is meant by symmetry ?**

What is symmetry ?



Line symmetry

- A figure can have different types of symmetry, which we shall discuss in this chapter.
- A figure is said to have '**line symmetry**' if it the figure can be divided into two equal and same parts along a line. The line that divides it into two equal halves is called as “**Line of Symmetry**”



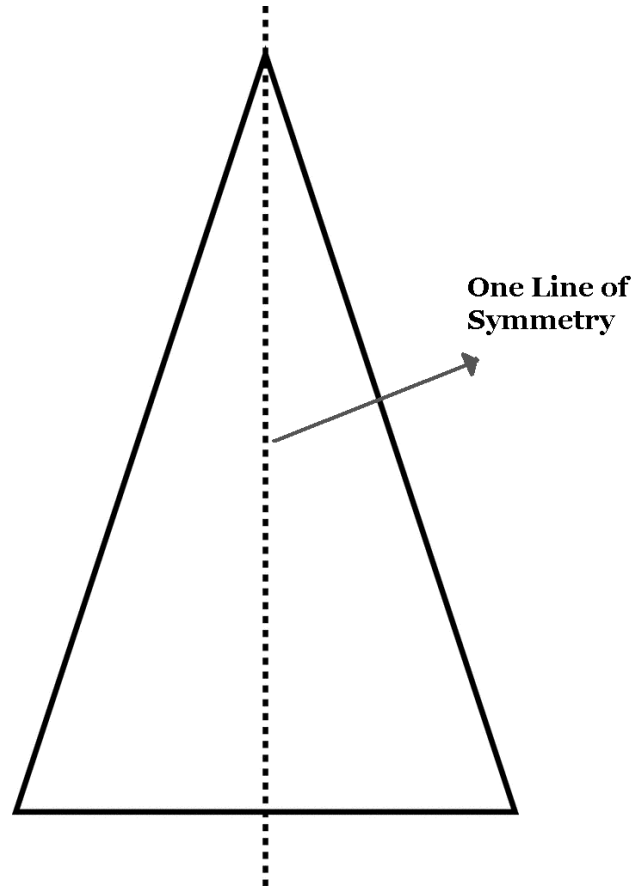
Line symmetry

- A figure can have no line of symmetry, a single line of symmetry or even multiple lines of symmetry.
- For example, a **curved figure** has no line of symmetry.



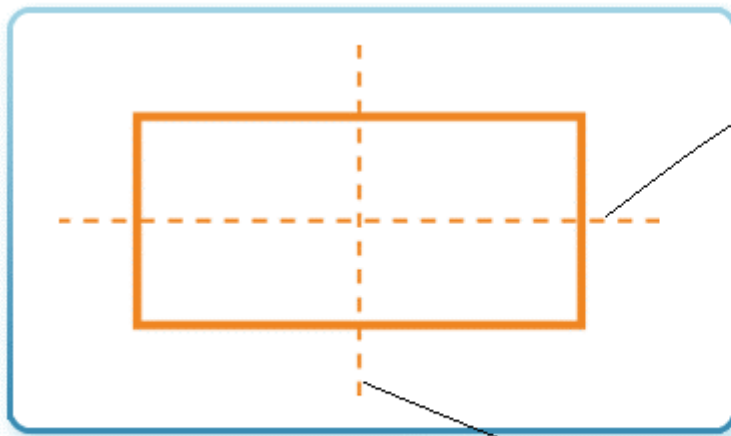
Line symmetry

- An Isosceles triangle has **one line** of symmetry.



Line symmetry

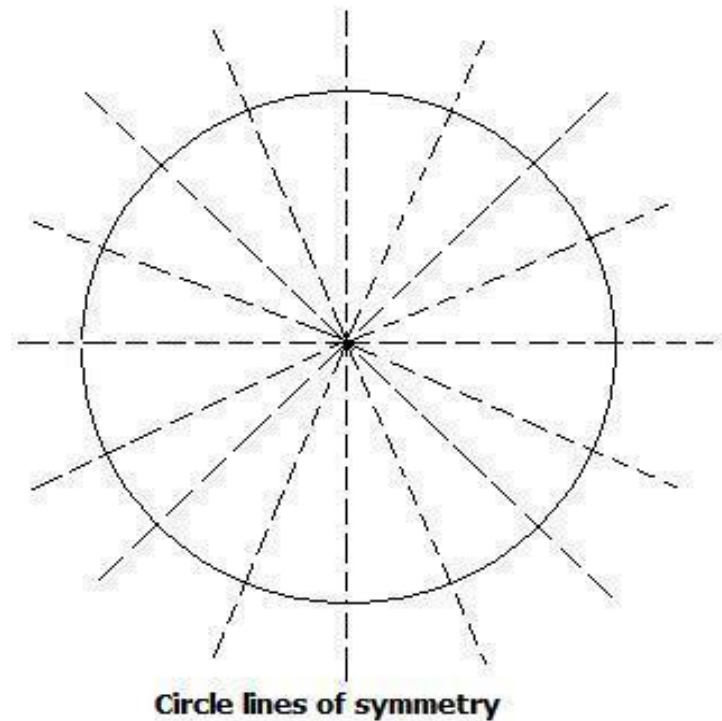
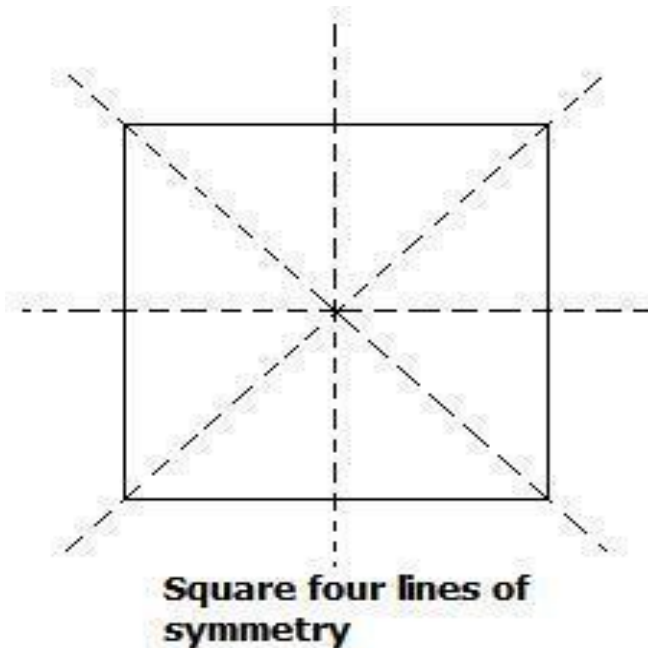
- A rectangle has **two lines** of symmetry.



Two Lines of
Symmetry

Line symmetry

- A square has **four lines** of symmetry.
- A circle can have **many lines** of symmetry.



More points to notice

- **Symmetry** is also closely related to the **mirror reflection**.
- In a **mirror reflection** we get what is called a **left-right** change in the image. (As you can notice in the below cartoon, how the left and right of the character got interchanged !)



Symmetry in day to day life

- Symmetry has many applications in day to day life,
- In fact, everything **beautiful** around us is **symmetrical**.
- Rangolis, that we love so much are symmetrical. (Can you trace out the lines of symmetry for the following figure ?)



- Its because of the symmetry, the Ancient Indian Image , Sri Yantra, appears beautiful !

