DELHI MODERN PUBLIC SCHOOL PAMPORE

Subject: Mathematics   **Term Ist: Study Material**

Class: 6th

Chapter No: 7

Topic: Symmetry

Day 1: Introduction

Symmetry: Symmetry is regularity of form, proportion and balance. An object is symmetrical if it can be folded along a line in two halves such that the both halves match exactly in shape and size. We can also say that the two halves are the mirror images of each other.

Characteristics of symmetrical shapes:

Symmetrical shapes must have:

- Two congruent parts separated by a line of symmetry.
- Corresponding vertices and sides matching when the shape is folded along the axis of symmetry.

Note: When a symmetrical object is folded along the line of symmetry, the two part superimpose

(fall on each other).

Vertical line of symmetry: is that line which runs down an image, thus dividing it into two identical halves .e.g.

A M V W

Horizontal line of symmetry: is that line that passes through the image from right to left, dividing it into two identical halves.e.g
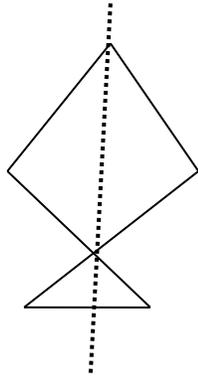
B C D E

Non symmetrical objects: All objects or figures do not have a line of symmetry. There are figures and objects with no line of symmetry and they are called non symmetrical or asymmetrical objects.e.g keys, hand, scalene triangle etc.
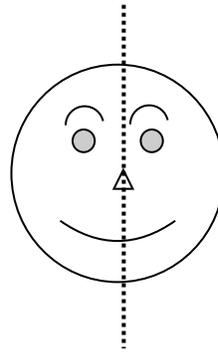
Day 2:

Innings 7.1

Q.No.1: (a) Symmetrical   (b) Symmetrical   (c) Symmetrical

         (d) Non-symmetrical   (e) Non-symmetrical

Q.No.2: (b)   (d)
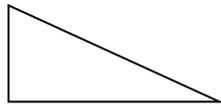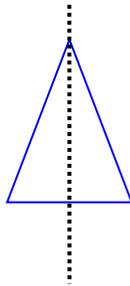
Do other parts by yourself.
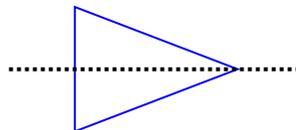
Q.No.3: Use squared sheet of paper for drawing.

       (a) Scalene triangle has no line of symmetry.

       (b) An isosceles triangle has one line of symmetry.

       (c) An isosceles triangle has horizontal line of symmetry only.

(d): Do yourself (equilateral triangle)

Day 3: Key points:

- A circle has infinite lines of symmetry.
- A square has four lines of symmetry.
- A rectangle has two lines of symmetry.
- An equilateral triangle has three lines of symmetry.
- A scalene triangle has no line of symmetry.
- In a regular polygon the number of lines of symmetry is equal to the number of sides.
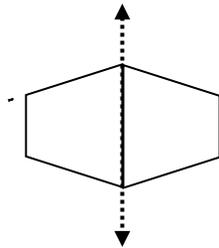
Note: Write these key points on your notebook.

Q.No.4: (a) True   (b) False, a square has four lines of symmetry.
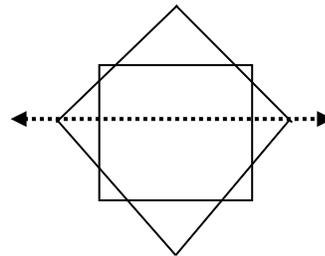
      (c) True   (d) True

Q.No.5: Five symmetrical objects from our day to day life are: a pair of scissors, black board,

     a table, aeroplane, basketball.

Q.No.6: (b)   (c)

Do other parts by yourself.

Q.No.7: (a) Line 'l' is the line of symmetry.

       (b) Line 'm' is the line of symmetry.

       (c) Line 'l' is the line of symmetry.

       (d) Both lines, line 'l' and line 'm' are the lines of symmetry.
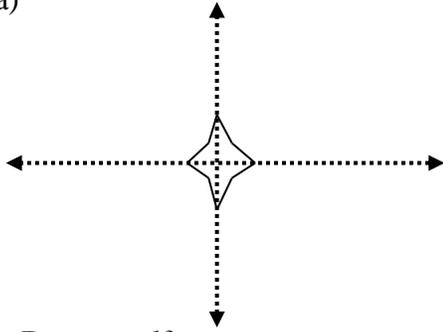
Day 4:

Reflective Symmetry: is when a shape or pattern is reflected in a line of symmetry/mirror line. The reflected shape will be exactly the same as original, the same distance from the mirror line and the same size. It occurs when a line is drawn to divide a shape in halves so that each half is a reflection of the other. For example square, circle, rectangle, triangles etc.
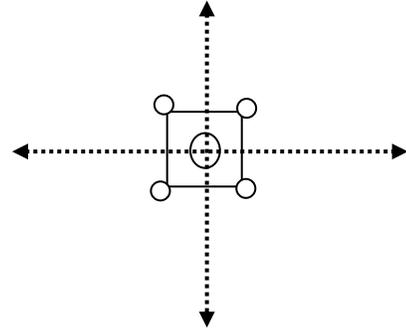
Note: A symmetric figure has at least one line of symmetry.

Innings 7.2

Q.No.1: (a)   (b)
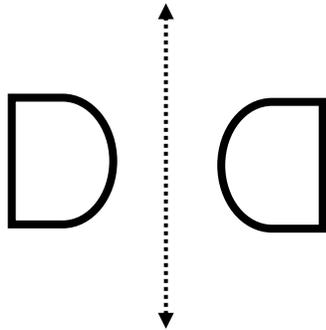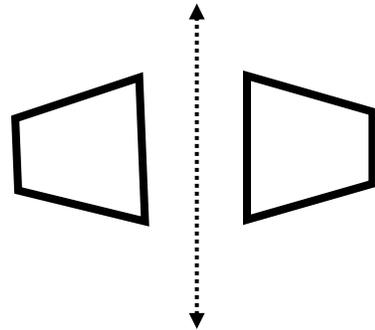
(c): Do yourself.

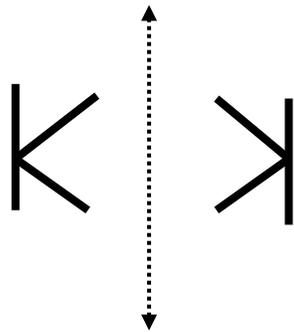Q.No.2: (a)   (c)

(c)

Do other parts by yourself.

Q.No.3: The English alphabets that look same in mirror are A, H, I, M, O, T, U, V, W and X.