MATH

3

CHAPTER 13: GEOMATRY
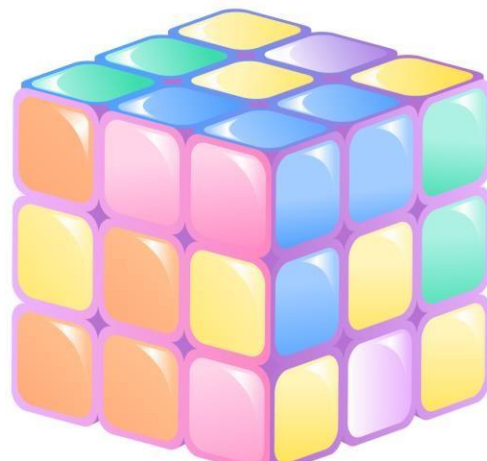
GEOMATRY

➢ GEOMATRICAL OBJECTS

LEARNING OBJECTIVES

This lesson will help you to:—

1. Understand different shapes, space and pattern.
2. Identify and recognize different shapes, spaces and pattern.
3. Identify edges, corners and faces in the given shape.
4. Describe the various 2D shapes by counting their sides/corners and diagonals.
5. Understand the basic concept of geometry.
6. Learn about rays and lines.

Amazing Facts

❖ The tangram is an old Chinese puzzle, consisting of a square broken up into various geometrical shapes.

❖ In south of India people make rangoli or kolam in front of main doors of their houses which are patterns of curved and straight lines.

❖ Jalebi, famous sweet of north India is an open figure
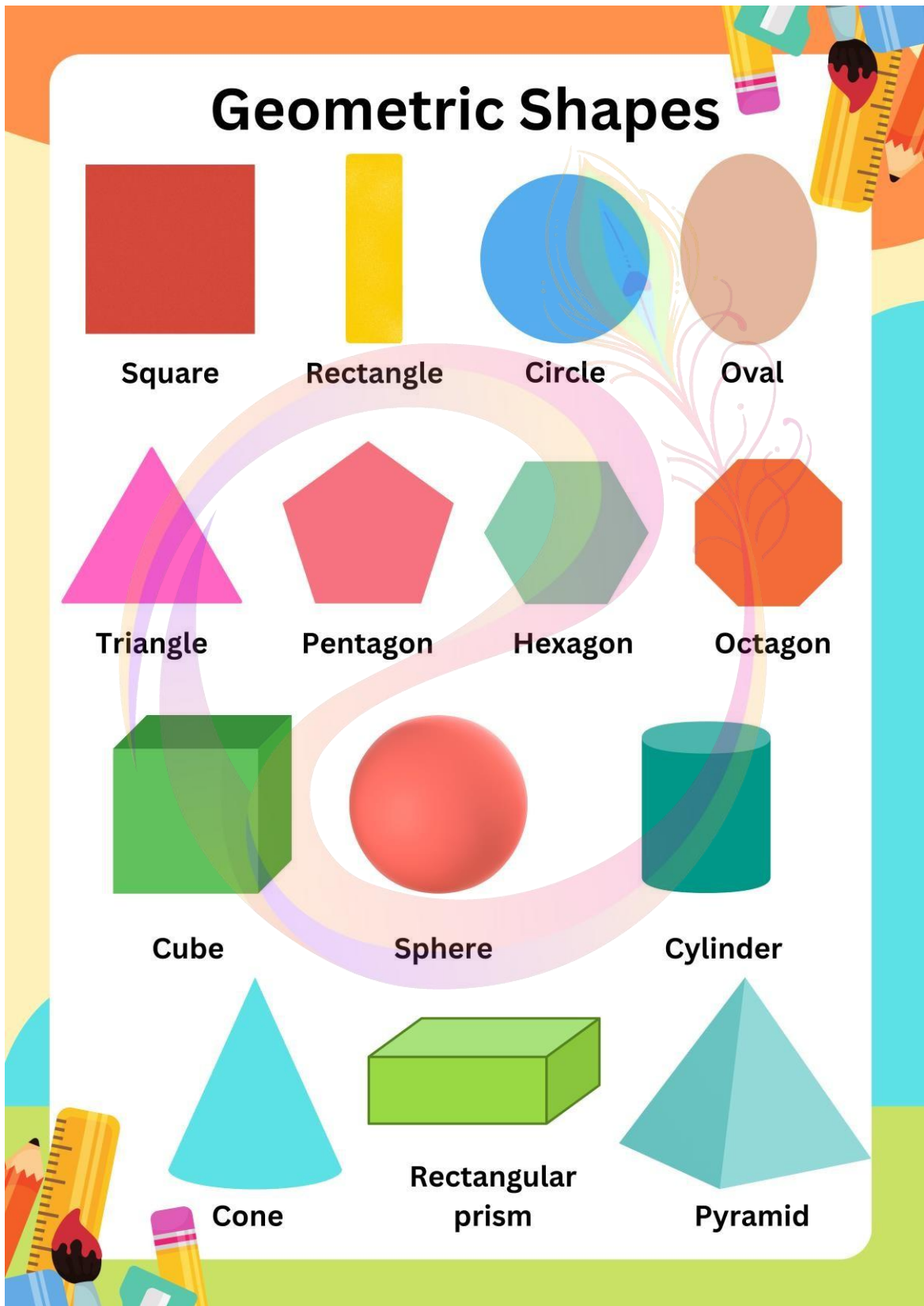

(1)

QUICK CONCEPT REVIEW

Yesterday it was Anu's Birthday. She hosted had a wonderful party. She got number of presents from her family and friends, packed in beautiful boxes of various shapes.

The presents included delicious chocolates which were beautifully packed in round box. Her aunt gifted her doll house which was wrapped in rectangular box. She got a teddy bear from her uncle packed in a large square box.
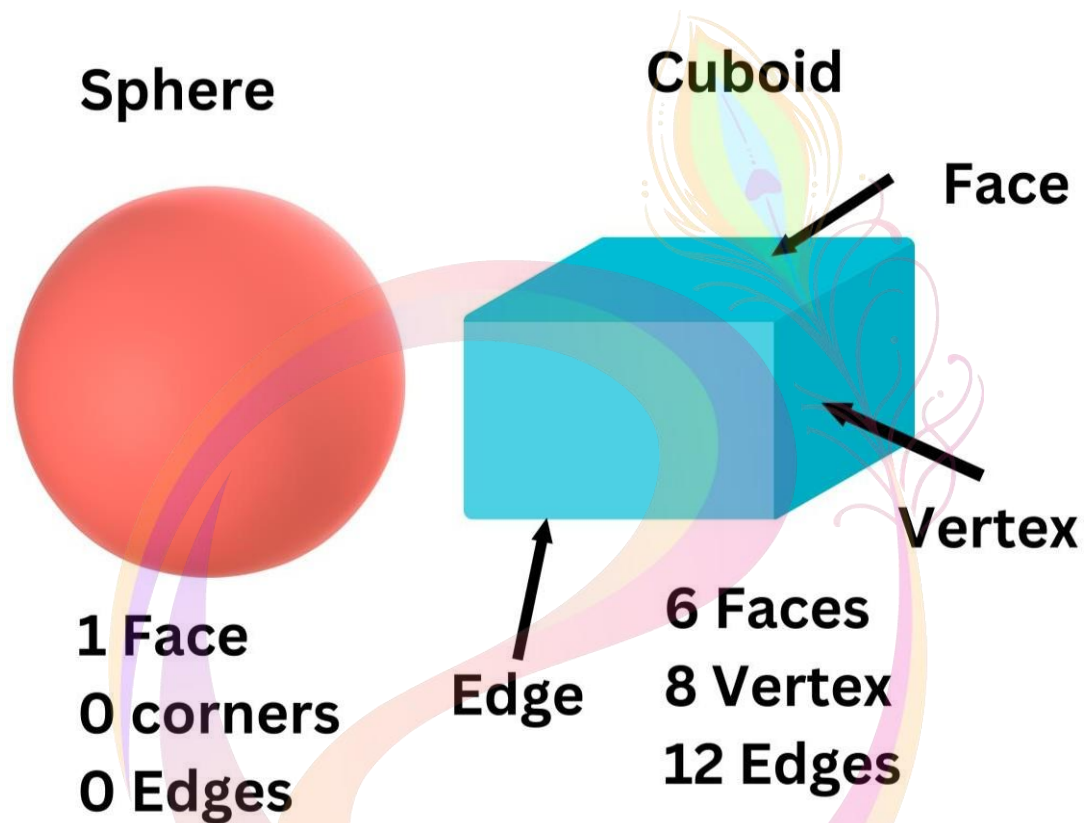
The birthday cake was a chocolate cake in star shape. All the friends in the party wore cone shaped birthday caps and looked cute.
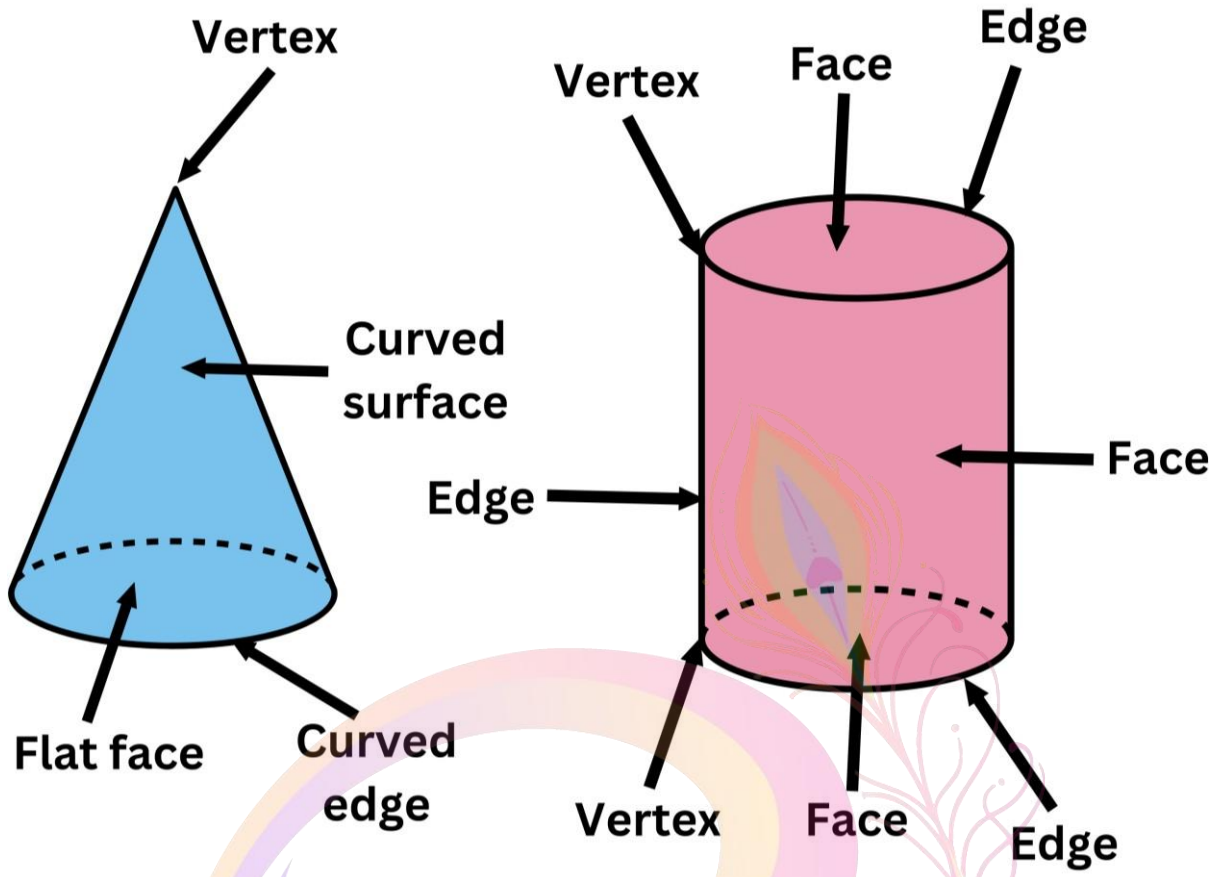
Anu's mother served delicious round shaped burger, spiral shaped past a (fusili) and cylindrical shaped spring rolls to her friends. There were also potato chips and crescent shaped croissants. Finally sweet spheres or 'rasgullas' were served.

Geometric Shapes

Square Rectangle Circle Oval

Triangle Pentagon Hexagon Octagon

Cube Sphere Cylinder

Cone Rectangular prism Pyramid

(3)

We played many paper games. Anu's mother distributed square shaped construction sheets to everyone and asked them to fold the sheet according to given instructions. She told them that a square sheet had four corners and four sides. She asked them to fold the paper in such a way that it should get five corners, six corners, seven corners and eight corners consecutively. The one who is going to finish first would win a prize. They played the same game with triangular paper too.

Sphere

1 Face
0 corners
0 Edges

Cuboid

Face
Vertex
Edge

6 Faces
8 Vertex
12 Edges

Later Anu's mother-asked one minute quiz from kids. It was about the number of faces, number of edges and number of corners in given shapes. Sia was asked that "How many edges are there in a pencil box?. Sia answered. "The edge is where two faces meet and pencil box has twelve edges'. The question to Rina was "How many faces are there in a book?'. Rina replied 'The surface of the solid shape is called its face, hence book has two faces. The quiz master asked Anu 'Which shape has no edges or corners?', to which Anu replied "Sphere has no edges or corners'.

(4)

Vertex

Vertex   Face   Edge

Curved
surface

Edge

Face

Flat face   Curved
edge

Vertex   Face   Edge

A piece of Tangram was distributed among Anu's friends and they all made different shapes out of those pieces. Everyone enjoyed the games and the party.

Poem on Shapes

Let's take a look,

At a few cool shapes.

Some look like boxes,

And others like grapes.

A circle is a shape

That is perfectly round

and a sphere is like a ball

bouncing off the ground.

When it has four equal sides

We call it a square

While a cube looks like a box,

Used for gifts that we share.

A triangle has equal sides,

But only just three,

Looks like one side of a pyramid,

I surely agree.

There are plenty of more
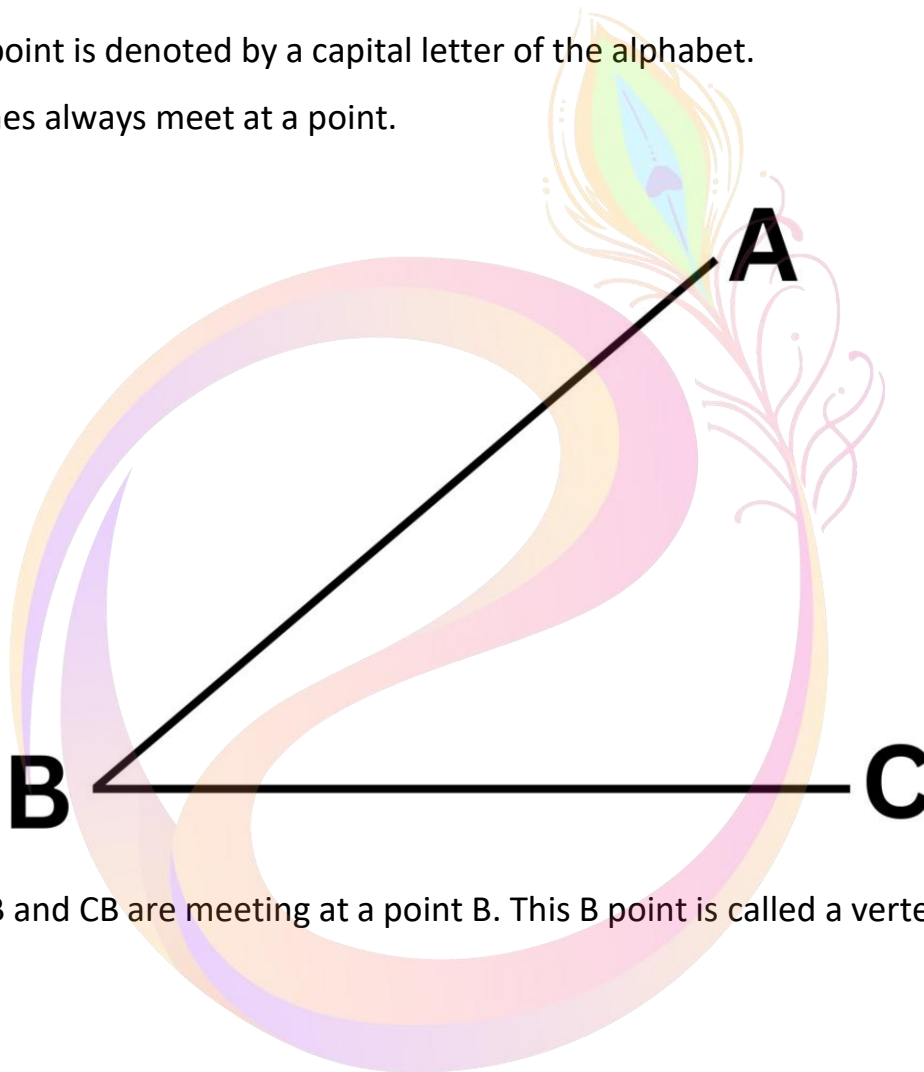
Shapes

That you may go and explore

A rectangle looks like,

(6)

A fallen old door.

Point

A point is a small dot in space.

- ❖ It marks the beginning and end of a line, a ray or a line segment.
- ❖ It is denoted by (.).
- ❖ Every point is denoted by a capital letter of the alphabet.
- ❖ Two lines always meet at a point.

Here sides AB and CB are meeting at a point B. This B point is called a vertex.

Line

Line is a geometrical figure formed by points moving along a fixed direction and the reverse direction. Line may be straight or curved.

Straight Line

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