NOTES

Government Demo School
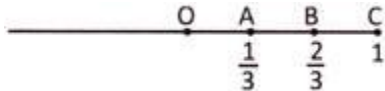
Class Name : 5th

Subject: Maths

Introduction

We observe different types of figures around us. They are in different shapes. In this chapter we will discuss different types of geometrical figures such as line, angles etc.

Point

To show a particular location, a dot (.) is placed over it, that dot is known as point.

Example:

In the above figure point A represents ⅓ , point B represents ⅔ , and point C represents 1.

Line Segment

Line segment is defined as the shortest distance between two fixed points. For example

It is denoted as

Example: How many line segments are there in the figure?

(a) 2   (b) 4

(c) 8   (d) 16

(e) None of these

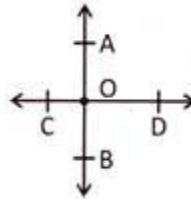**Answer (c)**

Ray

It is defined as the extension of a line segment in one infinitive direction. For example:

      It is denoted as

Example: How many rays are there in the given figure?

(a) 2   **(b) 4**

(c) 12   **(d) 16**
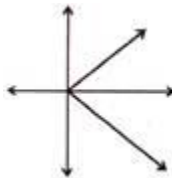
(e) None of these

Answer (c)

Line

Line is defined as the extension of a line segment infinitive in either direction.

Example: How many lines are there in the following figure?
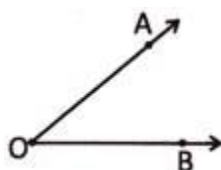

It is denoted as

(a) 2   (b) 4

(c) 8   (d) 16

(e) None of these

Answer (a)

Angle

Inclination between two rays having common end point is called angle.

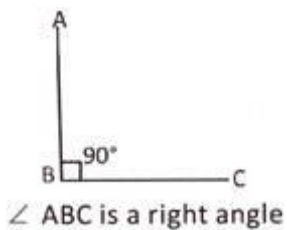Angle is measured in degree. Symbol of the degree is "

" and written as a∘,

Where a is the measurement of the angle.
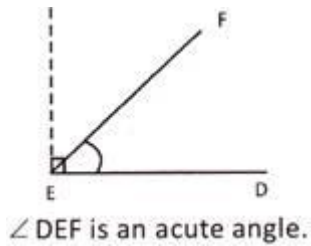
Types of Angle

There are different types of angles.

Right Angle

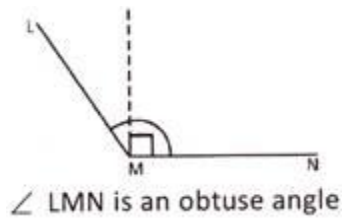An angle whose measure is exactly 90∘ is a right angle.

∠ ABC is a right angle

Acute Angle

An angle whose measure is less than 90◦ is an acute angle.

∠ DEF is an acute angle.

Obtuse Angle

An angle whose measure is greater than 90◦ but less than 180◦ is a obtuse angle.

∠ LMN is an obtuse angle

Straight Angle

An angle whose measure is 180◦ is a straight angle.

∠ ACB is straight angle
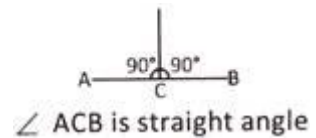
Reflex Angle

An angle whose measure is greater than 180◦ but less than 360◦ is a reflex angle.

∠ JOP is a reflex angle
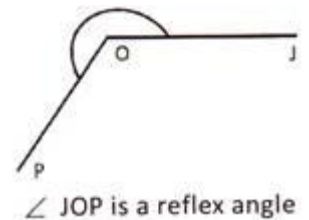
Example:

Name the angle which measures exactly 90∘.

Answer: Right angle

Example:

Name the angle which measures between 0∘ and 90∘

Answer: Acute angle

Triangle

The geometrical shapes having three sides are called triangle.

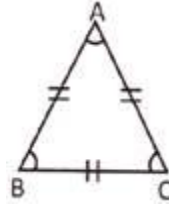Triangle has been classified:

(a) On the basis of sides

(b) On the basis of angles

Sides Based Classification

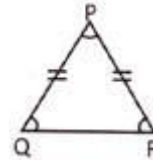On the basis of sides, triangle is of three types:

Equilateral Triangle

It is the triangle in which all the three sides are equal.

Isosceles Triangle

In this type of triangle two of the three sides are equal.

Scalene Triangle

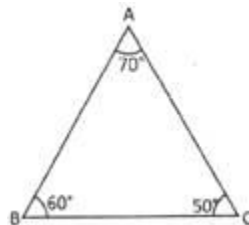In this triangle all the sides are unequal.
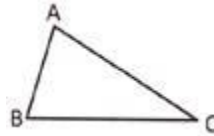
Angle Based Classification

On the basis of angles, triangles are of three types.

Acute Angled Triangle

A triangle whose all the angles are acute is called acute angled triangle.

Obtuse Angled Triangle

A triangle in which one angle is an obtuse angle is called an obtuse angled triangle.
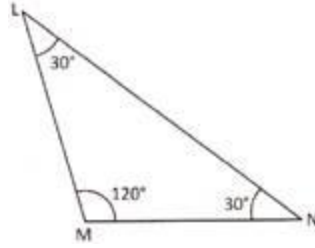
Right Angled Triangle

A triangle in which one angle is

90

°

is called a right angled triangle.

PQR is a right-angled triangle as it contains a right angle

(

∠ PQR

)

Example:

Name the triangle which has two equal sides.

Answer: Isosceles triangle

Example:

If the sum of two angles of a triangle is

80

$^\circ$

the triangle is:

(a) Acute angled triangle

(b) Obtuse angled triangle

(c) Right angled triangle
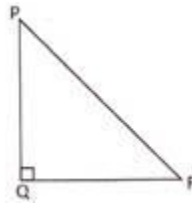
(d) All of these

(e) None of these

Answer: (b)

Sum of two angles of a triangle is

80

$^\circ$

Therefore, third angle

180

$^\circ$

−80

$^\circ$

=100

$^\circ$

which is an obtuse angle.

Quadrilateral

The geometrical figure having four sides is called quadrilateral.

Types of Quadrilateral

In this chapter we will study about two types of quadrilateral

(i) Rectangle   (ij) Square
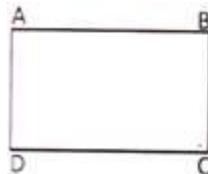
Rectangle

Rectangle is a quadrilateral in which:

(i) All angles are of

90

∘
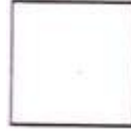
;

(ii) Opposite sides are equal.

Square

Square is a quadrilateral in which:

(i) All angles are of

90

∘

;   **(ii) All sides are equal.**

Example:

How many angles of a rectangle are right angles?

(a) 1   (b) 2

(c) 3   (d) 4

(e) None of these

Answer (d)

Example:
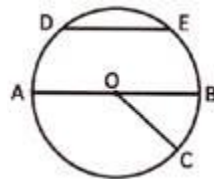
How many sides a quadrilateral has?

(a) 1   (b) 2

(c) 3   (d) 4
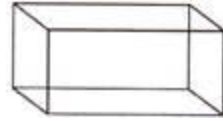
(e) None of these

Answer (d)

Circle

Circle is a simple closed shape, whose all points are at the same distance from a given point in a plane.

Chord

It is the line segment joining two distinct points of the circle.

Diameter

The diameter is the length of the line through the center that touches two point on the edge of the circle.

Radius

Radius of a circle is half of the diameter.

In the above circle, 0 is the centre, OA, OB, and OC are radius, and DE is the chord of the circle.

Example:

If diameter of a circle is 25 cm, find the radius of the circle

Answer:

Radius= 25/2

=12.5 cm

Example:

0 is the centre of a circle and P is the point on the line of the circle. Op is .... of the circle.

(a) Radius   (b) Diameter

(c) Chord   (d) All of these

(e) None of these

Answer (a)

Cuboid

Cuboid is a box shaped solid object. It has six flat faces, which are rectangular in shape.

Cube

Cube is also a box shaped solid object with six faces, which are square in shape.