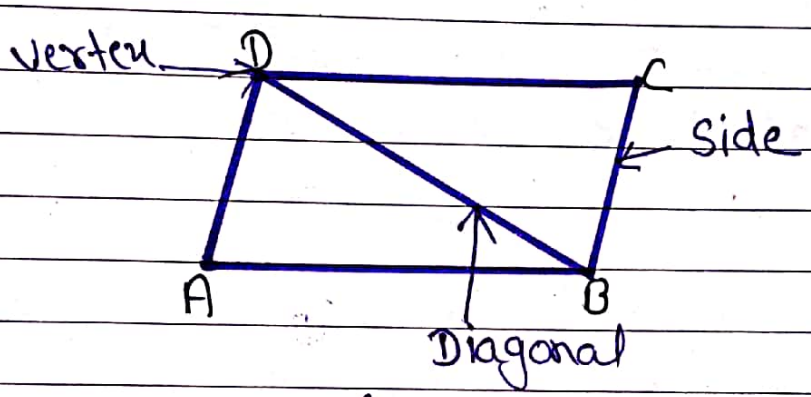
B. B. S. S. Sec. School

Class - VI Sub- Maths

Ch-5 Basic Geometrical Ideas

Topic → Quadrilaterals and Circle

1. Quadrilateral → A four sided closed figure is called quadrilateral.



Adjacent sides → (AB, AD); (AB, BC); (BC, CD) and (CD, DA)

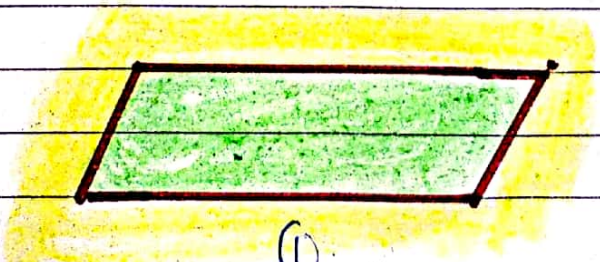
Adjacent Angles → (∠A, ∠B); (∠B, ∠C); (∠C, ∠D) and (∠A, ∠D)

Opposite sides → (AB, CD) and (AD, BC)

Opposite Angles → (∠A, ∠C) and (∠B, ∠D)

Interior of the quadrilateral → The region shown by green colour.

Exterior of the qudrilateral → The region shown by Yellow Colour.



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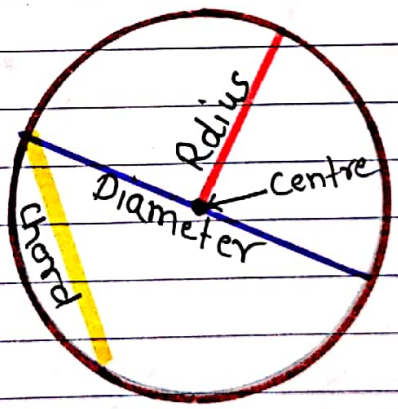
Circle → A circle is a simple closed curve, all the points of which are at the same distance from a given fixed point.

Ex - Wheels, One rupee coin etc.

Parts of a circle →

Centre → The fixed point in the plane which is equidistant from every point on the boundary of a circle is called centre.

Radius → The fixed distance between the centre and any point of a circle is called radius



Chord → A line segment joining any two points on a circle is called a chord

Diameter → A chord that passes through the centre of a circle is called diameter of the circle

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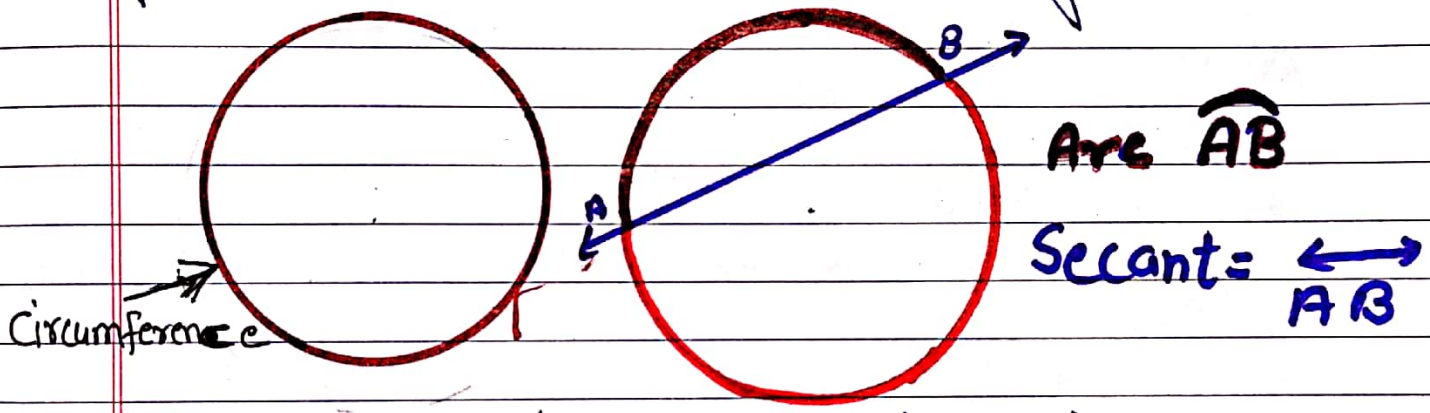
Circumference → The distance around a circle is called the circumference. Circumference of a circle is the perimeter of that circle.

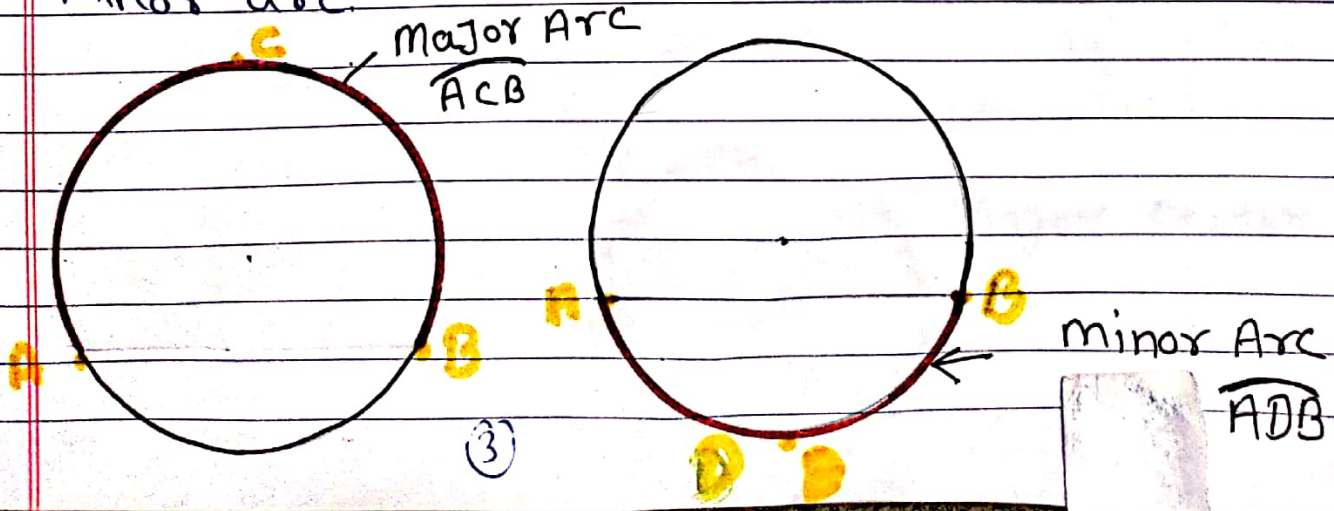
Arc → A part of a circumference of a circle is called an arc.

Secant → A line passing through a circle and intersecting the circle at two points is called a secant of the circle.



Major Arc → If the arc of a circle is greater than the semi-circle it is called a major arc.

Minor Arc → If the arc of a circle is less than the semi-circle, it is called a minor arc.



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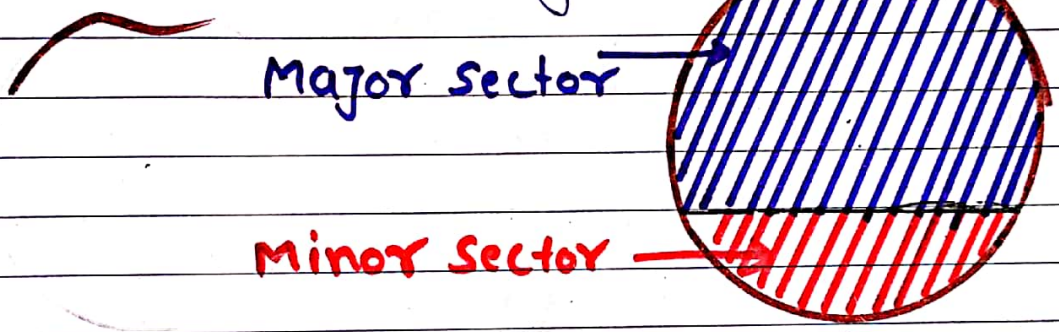
Segment → When a chord of circle divides the circular region into two parts, each part is called a segment of the circle.

Major Segment → The segment containing the centre of the circle is called the major segment.

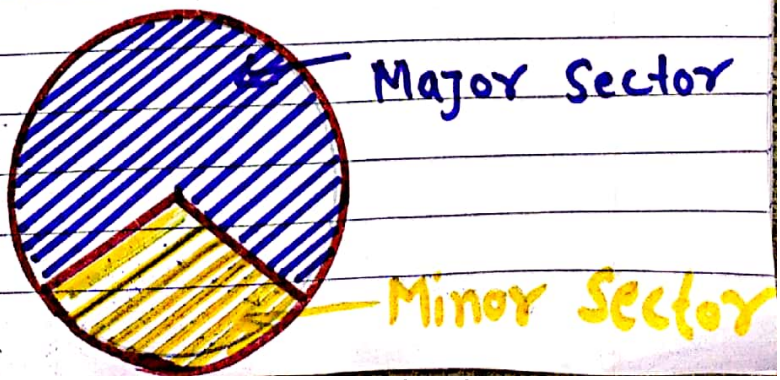
Minor Segment → The segment not containing the centre of the circle is called the minor segment.



Sector → The area bounded by an arc and two radii joining the centre to the end points of the arc is called a sector of the circle.

Major sector → The sector formed by a major arc is called major sector

Minor Sector → The sector formed by a minor arc is called minor sector.



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Relation between radius and diameter, circumference and diameter.

(i) Diameter is twice the radius.

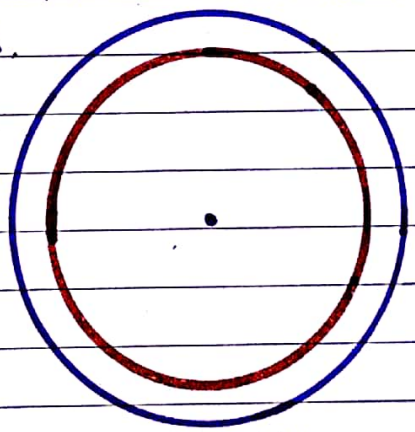
$D = 2 \times \text{radius}$

(ii) Circumference of a circle is about 3 time the length of diameter.

$\text{Circumference} = 3.14 \times \text{diameter}$

Concentric Circles →

Two or more circles with the same centre are called Concentric circles.



Note → i. write all notes in your copy.
ii. Do assignment 5.5 and 5.6 in your copy.

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ASSIGNMENT = 5.5

2. Take a point O inside a pentagon ABCDE. Join the point O with all its vertices. In how many triangles will the pentagon be divided ? Name them.

3. Draw a quadrilateral. Name the sides, vertices, angles and diagonals of the quadrilateral.

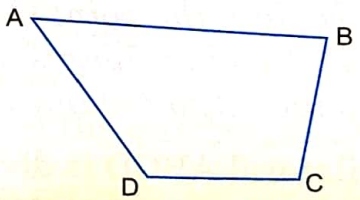
4. From the following figure, name :

(*i*) the pairs of adjacent sides.

(*ii*) the pairs of opposite sides.

(*iii*) the pairs of adjacent angles.

(*iv*) the pairs of opposite angles.



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ASSIGNMENT 5.6

1. Multiple Choice Questions (MCQ) Choose the correct option.

(*i*) In a circle, the area bounded by an arc and two radii joining the centre to the end-points of the arc is called a

(*a*) sector (*b*) segment (*c*) arc (*d*) secant

(*ii*) The radius of a circle of diameter 20.4 cm is

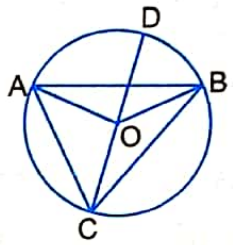
(*a*) 20.4 cm (*b*) 11.8 cm (*c*) 10.2 cm (*d*) 5.1 cm

(*iii*) The area bounded by a diameter and the semicircle is called

(*a*) minor segment (*b*) major segment

(*c*) semi-circular region (*d*) perimeter

2. From the adjoining figure, name the following :



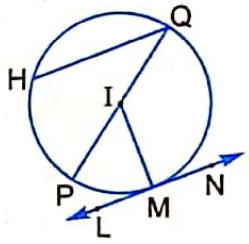
(*i*) Radii

(*ii*) Chords

(*iii*) Diameter

(*iv*) Triangles whose vertex is the centre of the circle.

3. A circle with centre I is given alongside. Fill in the blanks :



(*i*) IM is the _____ of the circle.

(*ii*) HQ is the _____ of the circle.

(*iii*) PQ is the _____ of the circle.

(*iv*) PM is an _____ of the circle.

(*v*) The name of the circumference of the circle is _____ .

4. Find the radius of the circle whose diameter is :

(*i*) 14 cm (*ii*) 30 cm (*iii*) 24 cm (*iv*) 48 cm

(*v*) 6 cm (*vi*) 12 cm (*vii*) 20 cm (*viii*) 36 cm

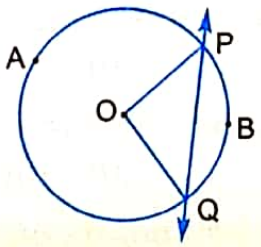
(*ix*) 28 cm (*x*) 44 cm

5. Find the diameter of the circle whose radius is :

(*i*) 4 cm (*ii*) 18 cm (*iii*) 12 cm (*iv*) 7 cm

(*v*) 3 cm (*vi*) 11 cm

6. In a circle with centre O as shown in the adjoining figure, name :



(*i*) major segment (*ii*) secant

(*iii*) minor segment (*iv*) major arc

(*v*) minor arc

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