



Circles Ex 16.1 Q2

Answer :

(i) Given that a circle is a plane figure.

As we know that a circle is a collection of those points in a plane that are at a given constant distance from a fixed point in the plane.

Thus the given statement is **true**.

(ii) Given that line segment joining the centre to any point on the circle is a radius of the circle.

As we know that line segment joining the centre to any point on the circle is a radius of the circle.

Thus the given statement is **true**.

(iii) Given that if a circle is divided into three equal arcs each is a major arc.

As we know that if points P , Q and R lies on the given circle $C(O, r)$ in such a way that

$$l(\widehat{PQ}) = l(\widehat{QR}) = l(\widehat{RP})$$

Then each arc is called major arc.

Thus the given statement is **true**.

(iv) It is given that a circle has only finite number of equal chords.

As we know that a circle having infinite number of unequal chords.

Thus the given statement is **false**.

(v) Given that a chord of the circle, which is twice as long as its radius is diameter of the circle.

As we know that a chord of a circle which is largest to others and passing through the centre of the circle and twice as long as its radius is called diameter of the circle.

Thus the given statement is **true**.

(vi) It is given that sector is the region between the chord and its corresponding arc.

As we know that the region between the chord and its corresponding arc is called sector.

Thus the given statement is **true**.

(vii) Given that the degree measure of an arc is the complement of the central angle containing the arc.

As we know that the degree measure of a minor arc is the measure of the central angle containing the arc and that of a major arc is 360° minus the degree measure of the corresponding minor arc.

Let degree measure of an arc \widehat{PQ} is θ of a given circle $C(O, r)$ is denoted by $m(\widehat{PQ}) = \theta$

Thus the given statement is **false**.

(viii) Given that the degree measure of a semi-circle is 180° .

As we know that the diameter of a circle divides into two equal parts and each of these two arcs are known as semi-circle.

\widehat{PQ} and \widehat{QP} are semi circle

Hence,

$$m(\widehat{PQ}) = m(\widehat{QP}) = 180^\circ$$

Thus the given statement is **true**.

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