

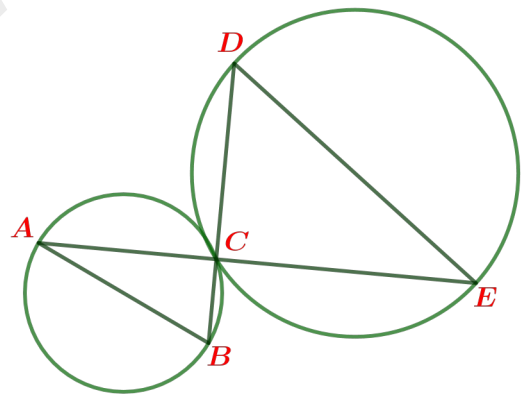
# ONLINE MATHS CLASS- X - 15 ( 23 / 07 /2021 )

## 2 . CIRCLES - CLASS – 3 part 2 - WORKSHEET

### Important points

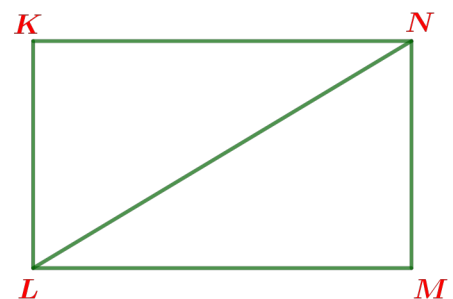
- If we join the ends of a diameter of a circle to a point on the circle, we get a right angle .
- Angle in a semicircle is right .
- If a pair of lines drawn from the ends of a diameter of a circle are perpendicular to each other, then they meet on the circle .
- The angle formed by joining the end points of the diameter of a circle to a point inside the circle is greater than  $90^\circ$ , on the circle is  $90^\circ$  and outside the circle is less than  $90^\circ$

1. In the figure two circles intersect at C . AB is the diameter of the smaller circle . Lines AE and BD meet at C .



- a) What is the measure of  $\angle ACB$  ?
- b) Prove that DE is the diameter of the larger circle .

2. In the figure KLMN is a rectangle .



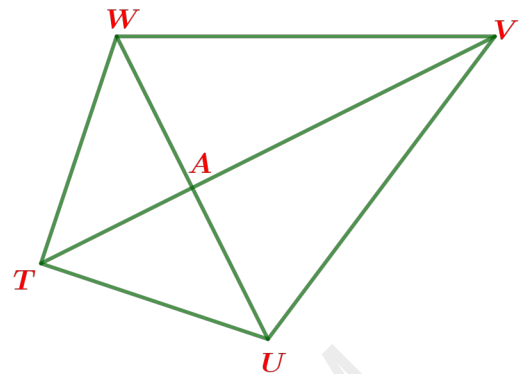
- a) What is the measure of  $\angle K$  ?
- b) Find out whether the point K is inside the circle, on the circle or outside the circle if a circle is drawn with LN as diameter ?
- c) Prove that a circle passing through all four vertices of a rectangle KLMN can be drawn ?

3. In the figure , diagonals of the quadrilateral TUVW are perpendicular to each other and the diagonals intersect at A .

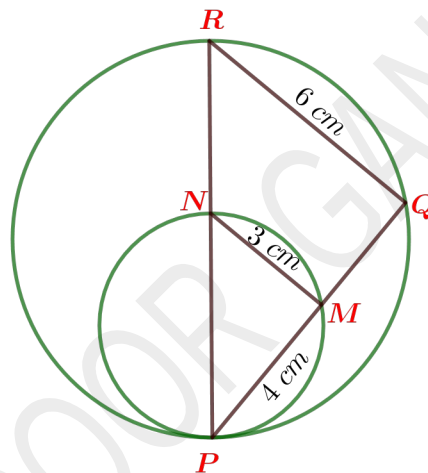
a) What is the measure of  $\angle TAW$  ?

b) Find out whether the point A is inside the circle , on the circle or outside the circle , if a circle is drawn with TW as diameter ?

c) Prove that all four circles drawn with the sides of the quadrilateral TUVW as diameters pass through a common point .



4.



In the figure two circles intersect at P . Diameter of the smaller circle is PN and the diameter of the larger circle is PR .  $PM = 4 \text{ cm}$  ,  $MN = 3 \text{ cm}$  ,  $QR = 6 \text{ cm}$  .

a) What is the measure of  $\angle PMN$  ?

b) What is the length of PN ?

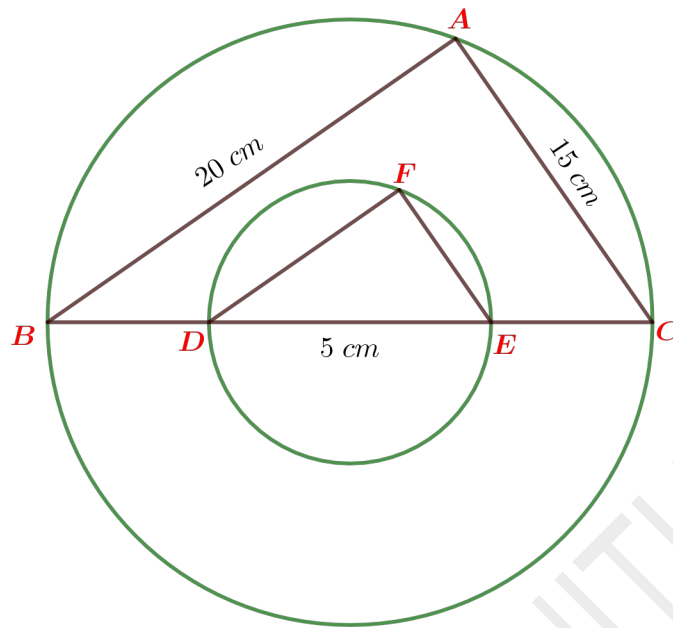
c) What is the measure of  $\angle PQR$  ?

d) Check whether the angles of triangle PMN are equal to the angles of triangle PQR or not .

e) What is the length of PQ ?

f) Calculate the perimeter of triangle PQR .

5.



In the figure BC is the diameter of the larger circle and DE is the diameter of the smaller circle . AB is parallel to DF .  $AB = 20\text{ cm}$  ,  $AC = 15\text{ cm}$  ,  $DE = 5\text{ cm}$  .

- What is the measure of  $\angle BAC$  ?
- What is the length of BC ?
- What is the measure of  $\angle DFE$  ?
- Check whether the angles of triangle BAC are equal to the angles of triangle DFE or not .
- Calculate the area of triangle DFE .