INTERNATIONAL INDIAN SCHOOL BURAIDAH

Worksheet For The Academic Year 2025-26

CLASS: IX SUBJECT: Mathematics DATE: 02/11/2025

LESSON-9 Circles

1) A circle divides a plane into ____ regions.

2) The region between a chord and an arc is called _____ .

3) The region between two radii and an arc is called _____.

4) The angle subtended in a semicircle is _____.

5) The angle subtended in the same segment of a circle is ____.

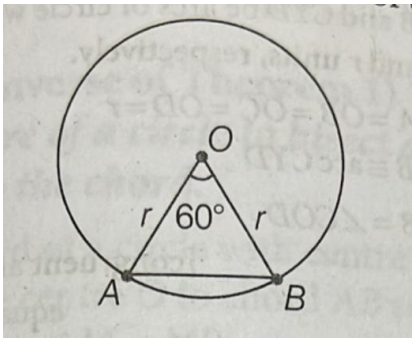
6) The angle formed by a chord in the major arc is _____ while in the minor arc is _____.

7) State any 3 rules of circles.

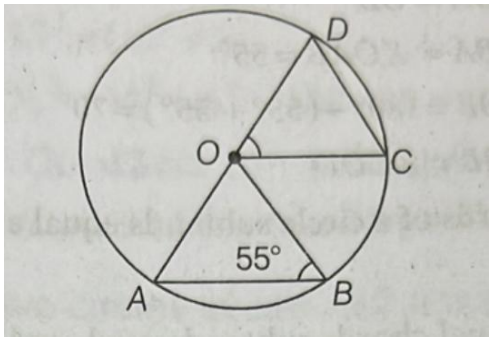
8) Prove that Equal chords of a circle subtend equal angles at the centre.

9) State and Prove the theorem related to central angle property.

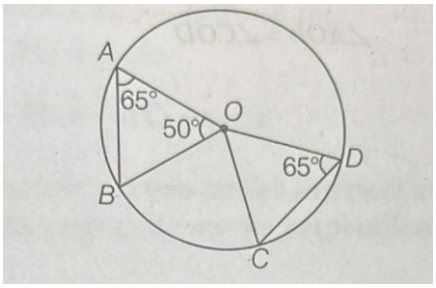
10) AB is a chord of a circle of centre O. If $\angle AOB = 60°$ then prove that the chord AB is of radius length.



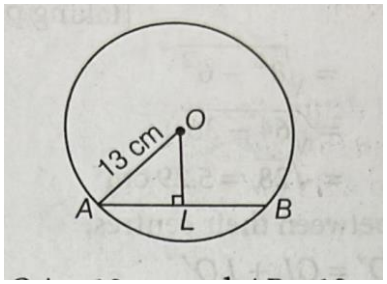
11) If AB and CD are equal chords. Also $\angle OBA = 55°$ then find $\angle COD$.



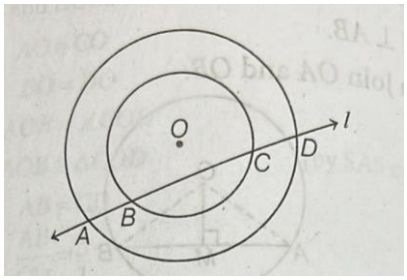
12) If O is the centre of the given circle and $\angle OAB = 65°$, $\angle AOB = 50°$ then find $\angle COD$.



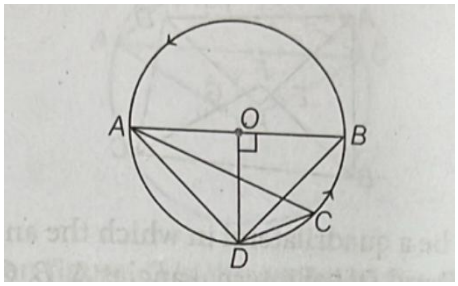
13) The radius of a circle is 13cm and the length of one of its chord is 10cm. Find the distance of the chord from the centre.



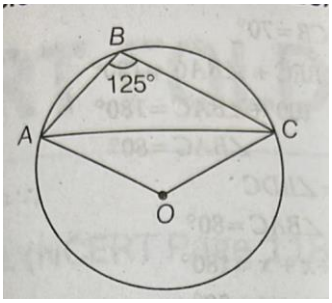
14) Two concentric circles of centre O have A,B,C,D as points of intersection with a line l . If AD = 12cm and BC = 8cm then find the length of AB & CD.



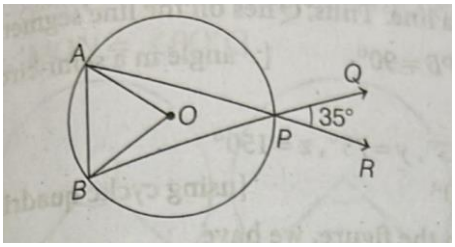
15) AB is the diameter of a circle of centre O and radius r and OD is perpendicular to AB. If there is a point C on arc DB then find $\angle BAD$ and $\angle ACD$.



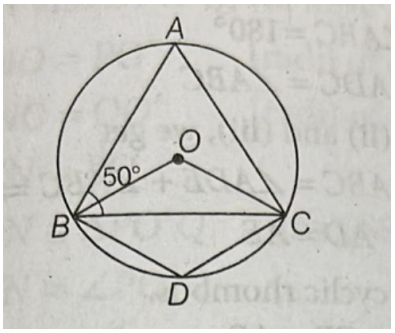
16) If ∟ABC = 125° where A,B,C are points on a circle with centre O ,
Find ∟OAC.



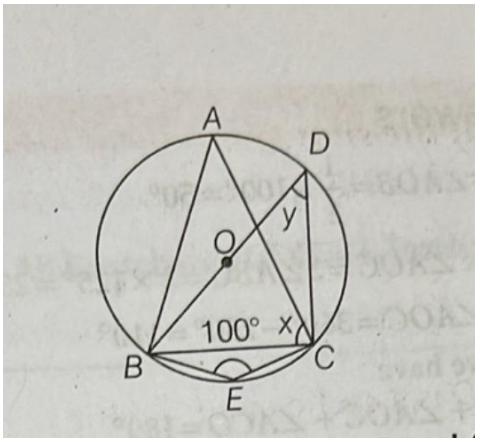
17) In the given circle the chords AP and BP are extended to R and Q resp.
If ∟QPR = 35° then find ∟AOB.



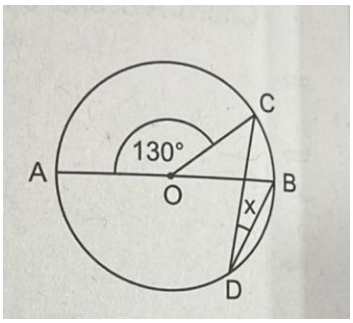
18) O is the centre of a circle and BA = AC. If ∟ABC = 50° then find ∟BOC and ∟BDC.



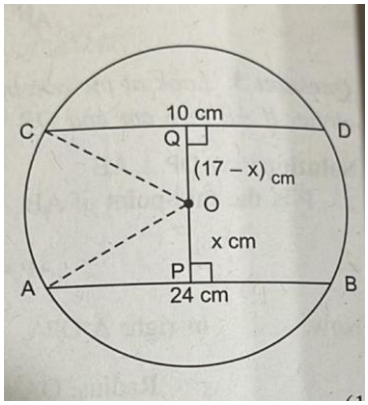
19) In the given circle AB = AC and ∟BEC = 100°. Find the value of x & y.



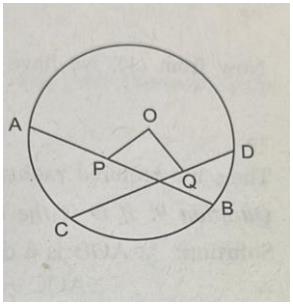
20) If O is the centre of the circle , find the value of x.



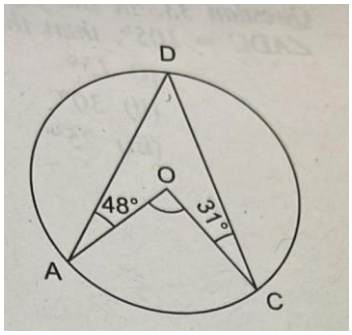
21) If AB and CD are two parallel chords of a circle which are on opposite sides of the centre such that AB = 24cm and CD = 10cm and the distance between AB and CD is 17cm , find the radius of the circle.



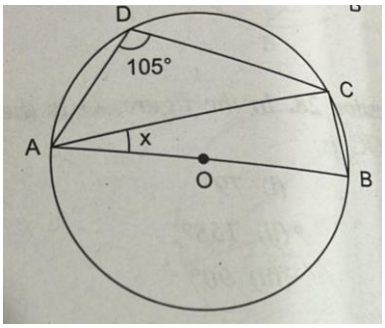
22) O is the centre of the given circle with OP = OQ. If AP = 4cm then find the length of CD.



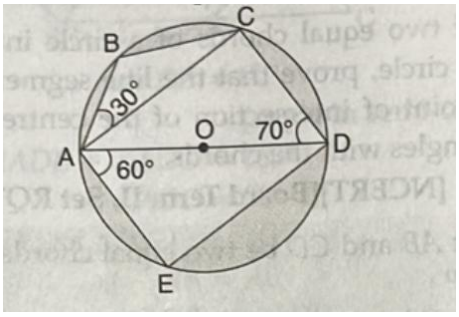
23) In the figure find the measure of ∟AOC.



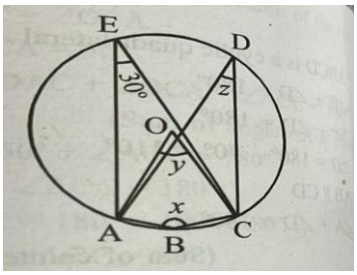
24) If O is the centre of the circle and $\angle ADC = 105°$ then find the value of x.



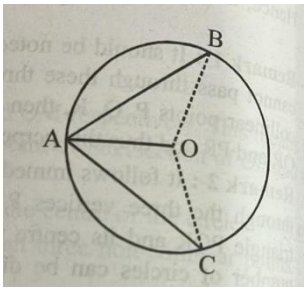
25) In the given figure, find $\angle ABC$, $\angle ADE$, $\angle BCD$.



26) In the figure $\angle CEA = 30°$, find the value of x , y and z.



27) If two chords AB and AC of a circle with cenre O are such that the centre O lies on the bisector of $\angle BAC$, prove that the chords are equal.



28) Three students Monu, Sonu and Rony are sitting on the circumference of a circular park of radius 20m at equal distances holding banners. Find the distance between each of them.

Answers

11) 70° 12) 50° 13) 12cm 14) 2cm each 15) 45° both 16) 35° 17) 70° 18) 160° ,100°

19) x =50° , y = 80° 20) 25° 21) 13cm 22) 8cm 23) 158° 24) 15° 25) 110° , 30° , 130°

26) x = 150° , y = 60° , z = 30° 28) $20\sqrt{3}$ m