Chapter 10

ASSIGNMENT

OBJECTIVE 10.1

1. If two circular wheels rotate on a horizontal road then locus of their centres will be

(A) Circles (B) Rectangle (C) Two straight line (D) Parallelogram

2. In a plane locus of a centre of circle of radius r, which passes through a fixed point

(A) rectangle (B) A circle (C) A straight line (D) Two straight line

3. In a circle of radius 10 cm, the length of chord whose distance is 6 cm from the centre is

(A) 4 cm (B) 5 cm (C) 8 cm (D) 16 cm

4. If a chord a length 8 cm is situated at a distance of 3 cm form centre, then the diameter of circle is :

(A) 11 cm (B) 10 m (C) 12 cm (D) 15 cm

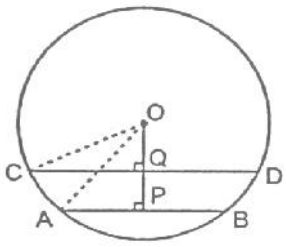
5. In a circle the lengths of chords which are situated at a equal distance from centre are :

(A) double (B) four times (C) equal (D) three times

SUBJECTIVE 10.2

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

2. Show is the figure, O is the centre of the circle of radius 5 cm. OP $\perp$ AB, OQ $\perp$ CD, AB $\parallel$ CD, AB = 6 cm and CD = 8 cm. Determine PQ.



3. AB and CD are two parallel chords of a circle such that AB = 10 cm and CD 24 cm. If the chords are on the opposite side of the centre and the distance between is 17 cm, Find the radius of the circle.

4. In a circle of radius 5 cm, AB and AC are two chords such that AB = AC = 6 cm. Find the length of the chord BC.

5. AB and CD are two parallel chords of a circle whose diameter is AC. Prove that AB = CD.

6. Two circles of radii 10 cm and 8 cm interest and the length of the common chord is 12 cm. Find the distance between their centries.

7. Two circles with centre A and B and of radii 5 cm and 3 cm touch each other internally. If the perpendicular bisector of segment AB meet the bibber circle is P and Q, find the length of PQ.

OBJECTIVE 10.3

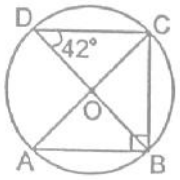
1. I the given circle ABCD, O is the centre and $\angle BDE = 42^0$. The $\angle ACB$ is equal to :

(A) 48^0

(B) 45^0

(C) 42^0

(C) 60^0



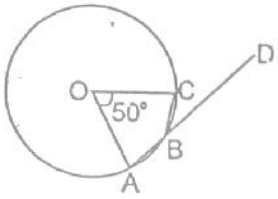
2. In the diagram, O is the centre of the circle. The angles CBD is equal to :

(A) 25^0

(B) 50^0

(C) 40^0

(D) 130^0



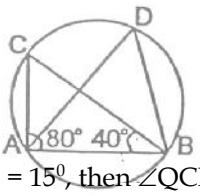
3. In the given figure, $\angle CAB = 80^0$, $\angle ABC = 40^0$. The sum of $\angle DAB + \angle ABD$ is equal to :

(A) 80^0

(B) 100^0

(C) 120^0

(D) 140^0



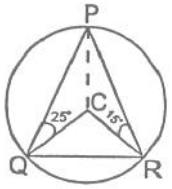
4. In the given figure, if C is the centre of the circle and $\angle PC = 25^0$ and $\angle PRC = 15^0$, then $\angle QCR$ is equal to :

(A) 40^0

(B) 60^0

(C) 80^0

(D) 120^0



5. In a cyclic quadrilateral if $\angle B - \angle D = 60^0$, then the smaller of the angles B and D is :

(A) 30^0 (B) 45^0 (C) 60^0 (D) 75^0

6. Three wires of length ℓ_1, ℓ_2, ℓ_3 from a triangle surmounted by another circular wire, If ℓ_3 is the diameter and $\ell_3 = 2\ell_1$, then the angle between ℓ_1 and ℓ_3 will be

(A) 30^0 (B) 60^0 (C) 45^0 (D) 90^0

7. In a circle with centre O, OD $\perp$ chord AB. If BC is the diameter, then :

(A) AC = BC (B) OD = BC (C) AC = 2OD (D) None of these

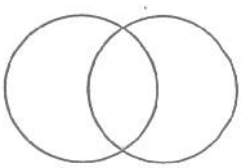
8. In the diagram two equal circles of radius 4 cm intersect each other such that each passes through the centre of the other. Find the length of the common chord.

(A) $2\sqrt{3}$ cm

(B) $4\sqrt{3}$ cm

(C) $4\sqrt{2}$ cm

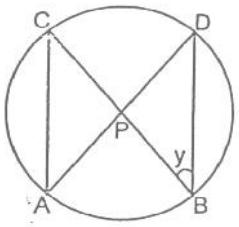
(D) 8 cm



9. The sides AB and DC of cyclic quadrilateral ABCD are produced to meet at P, the sides AD and BC are produced to meet at Q. If $\angle ADC = 85^0$ and $\angle BPC = 40^0$, then $\angle CQD$ equals.

(A) 30^0 (B) 45^0 (C) 60^0 (D) 75^0

10. In the given figure, if $\angle ACB = 40^0$, $\angle DPB = 120^0$, then will be :



(A) 40^0

(B) 20^0

(C) 0^0

(D) 60^0

11. Any cyclic parallelogram is a.

(A) rectangle (B) rhombus (C) trapezium (D) square

12. The locus of the centre of all circles of given radius r, in the same planes, passing through a fixed point is :

(A) A point (B) A circle (C) A straight line (D) Two straight lines

13. In a cyclic quadrilateral if $\angle A - \angle C = 70^0$, then the greater of the angles A and C is equal to :

(A) 95^0 (B) 105^0 (C) 125^0 (D) 115^0

14. The length of a chord a circle is equal to the radius of the circle. The angle which this chord subtends on the longer segment of the circle is equal to :

(A) 30^0

(B) 45^0

(C) 60^0

(D) 90^0

15. If a trapezium is cyclic then,

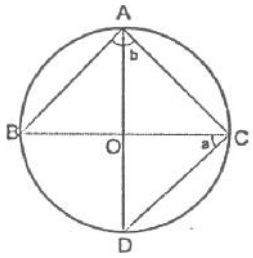
(A) Its parallel sides are equal.

(B) Its non-parallel sides are equal.

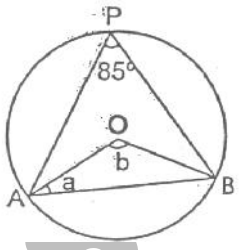
(C) Its diagonals are not equal.

(D) None of these above

1. In the given figure, BC is diameter bisecting ∠ACD, find the values of a, b (o is centre of circle).

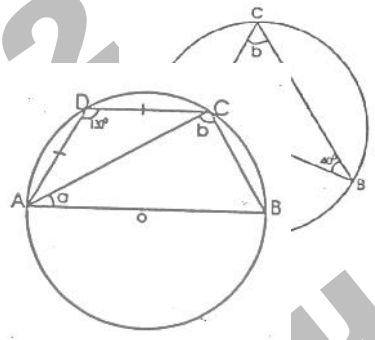


2. In the given figure, find the value of a & b.

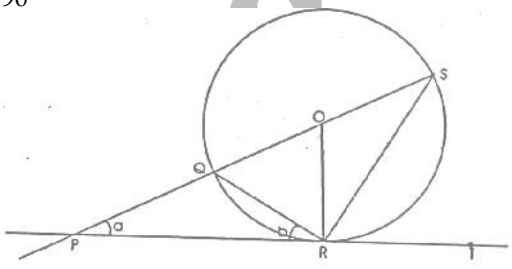


3. Find the value of a & b.

4. Find the value of a & b.

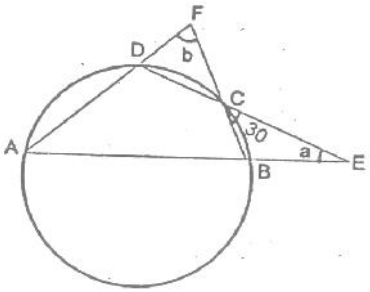


5. Prove that $a + 2b = 90^0$

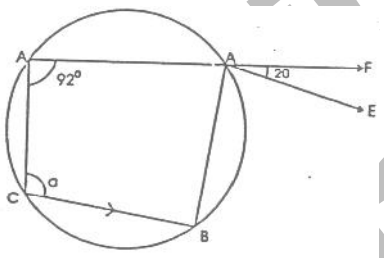


6. ABCD is a cyclic quadrilateral in which $\angle A = (x + y + 10)^0$, $\angle B = (y + 20)^0$, $\angle C = (x + y - 30)^0$ and $\angle D = (x + y)^0$. Find x and y.

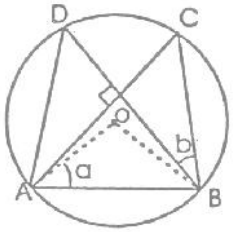
7. Find the value of a and b, if b = 2a.



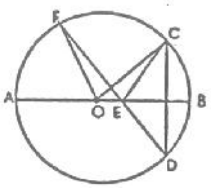
8. Find the value of a if BC ‖ EA



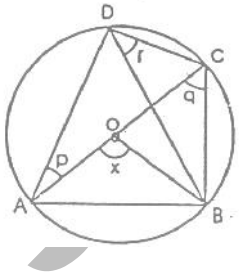
9. In the adjoining fig., O is centre of the circle, chord AC and BD are perpendicular to each other, ∠OAB = a and ∠DBC = b. Show that a = b.



10. In the fig. given below, AB is diameter of the circle whose centre is O. Given that : ∠ECD = ∠EDC = 32^0. Show that ∠COF = ∠CEF.



11. In the given fig., AC is the diameter of circle centre O. Chord BD is perpendicular to AB. Write down the angles p,q & r in terms of x.



12. Prove that the line segment joining the mid-point of hypotenuse of a right triangle to its opposite vertex is half of the hypotenuse.