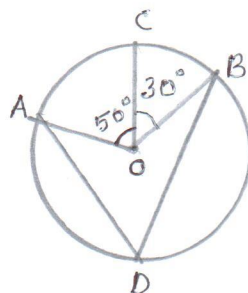


CIRCLES

1. a) On a common hypotenuse AB, two right angled triangle ,
ACB and ADB are situated on opposite sides .Prove that
 $\angle BAC = \angle BDC$.

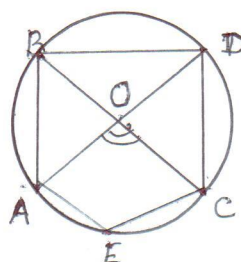
b) If a line is drawn parallel to the base of an isosceles
triangle to intersect its equal sides, prove that the
quadrilateral , so formed is cyclic.

2. a) In the given figure, O is the centre of the circle . $\angle AOC = 50^\circ$ and $\angle COB = 30^\circ$, find the measure of $\angle ADB$. (40°)

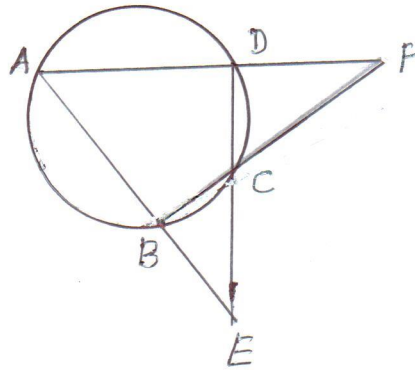


b) In the given figure ABCE is a cyclic quadrilateral , O is the
centre of the circle, if $\angle AEC = 110^\circ$. Find $\angle ABC$ and $\angle ADC$.

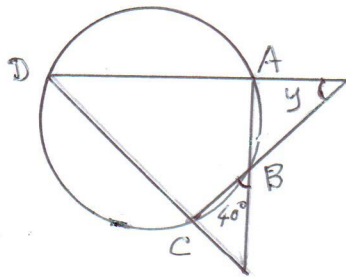
(70°, 70°)



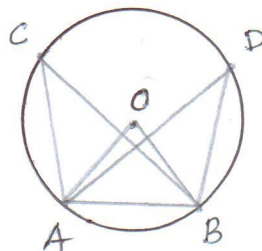
3. In the given figure, sides AB and DC of a cyclic quadrilateral ABCD are produced to meet at E. Sides AD and BC are produced to meet at F. If $\angle ADC = 80^\circ$ and $\angle BEC = 50^\circ$, then find $\angle BAD$ and $\angle CFD$. (56°, 30°)



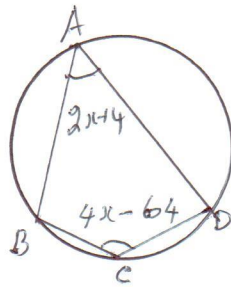
4. In the given figure, if $y = 3x$, then find the magnitude of x . (25°)



5. In the given figure, O is the centre of the circle $\angle ADB = 30^\circ$ and $\angle ABC = 40^\circ$. Find the measure of $\angle CAB$. (110°)



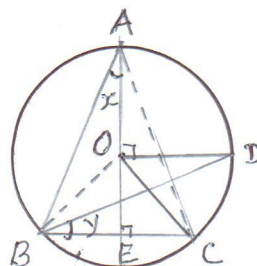
6. a) In the given figure, find the value of x . (40°)



b) If the length of the chord of the circle is 16cm and is at a distance of 15cm from the centre of the circle, then find the radius of the circle (17 cm) .

7. AB and AC are two chords a circle of radius r such that $AB = 2AC$. If p and q are distances of AB and AC from the centre, then prove that $4q^2 = p^2 + 3r^2$.

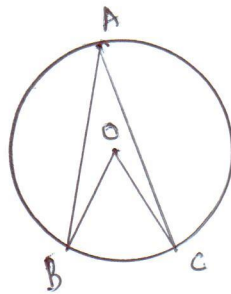
8. In the following figure, O is the centre of the circle, $\angle BCO = 30^\circ$. Find x and y .



9. During a practical activity in Maths lab, students were using circular Geo board .The angle subtended by an arc at the centre is $(2a + 50^\circ)$. Sakshi calculated $\angle BAC$ as $(a + 25^\circ)$.

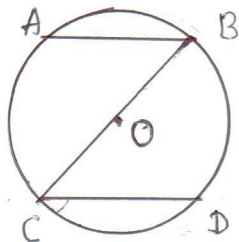
(i) Is her finding correct? Justify it.

(ii) Find $\angle BAC$, if $a = 30^\circ$.

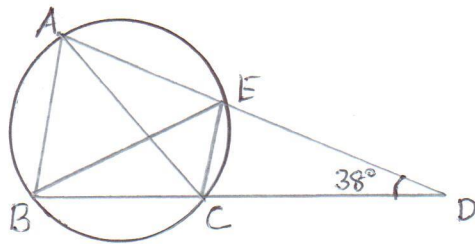


10. If bisector of opposite angles of a cyclic quadrilateral ABCD intersect at the circle, circumscribing it at the circle P and Q , then prove that PQ is a diameter of the circle.

11. A circle with centre O and diameter COB is given. If AB and CD are parallel, then show chord AC is equal to chord BD.



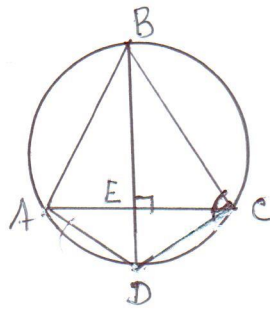
12. In the given figure, $AB = AC = CD$ and $\angle ADC = 38^\circ$, calculate $\angle ABC$ and $\angle BEC$. ($76^\circ, 28^\circ$)



13. In the figure $\angle BAC = 55^\circ$, $\angle BCA = 62^\circ$, the altitude BE produced meets the circle at D . ($28^\circ, 35^\circ, 62^\circ$)

Determine

- (i) $\angle ACD$
- (ii) $\angle DAC$
- (iii) $\angle ADB$



14. Two chords AB and AC subtends angles equal to 90° and 150° , respectively at the centre. Find $\angle BAC$, if AB and AC lie on the opposite sides on the centre. (60°)

15. If O is the centre of the circle, then find the value of x in the following figure. (60°)

