**KIRAN TUTORIALS** **Seat No.** | | | | | | | |

**Std 10 (English)** **Mathematics Part - II**

**Time 1HRS** **Chapter 3rd chp** **Marks 20**

**Q.1 Multiple Choice Questions** **5**

**1** Seg PA and seg PB are the tangents to the circle with centre O. A and B are the points of contacts. If PA = 5cm, what is the length of PB?

a. 10 b. 5 c. 2.5 d. - 10

**2** Seg XZ is a diameter of a circle. Point Y lies in its interior. How many of the following statements are true?

i. It is not possible that ∠XYZ is an acute angle.

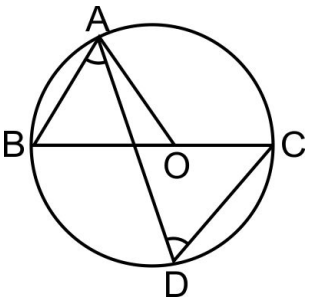
ii. ∠XYZ can't be a right angle.

iii. ∠XYZ is an obtuse angle.

iv. Can't make a definite statement for measure of ∠XYZ.

a. Only one b. Only two c. Only three d. All

**3**



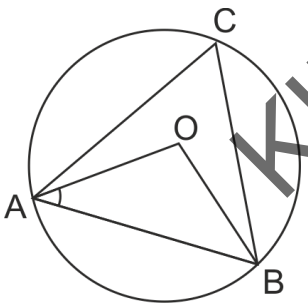

If AB||CD in the given figure, O is the centre of the circle. If ∠BAD =60°, then ∠ADC is equal to

a. $30^0$ b. $45^0$ c. $60^0$ d. $120^0$

**4** Two circles having radius 2.1 cm and 2.4 cm touch each other externally. The distance between their centres is?

a. 0.3 cm b. 4.5 cm c. 4.4 cm d. 0.2 cm

**5**




In the given figure. O is the center of the circle. If ∠OAB = $40^0$ , then ∠ACB is equal to

a. $50^0$ b. $40^0$ c.$60^0$ d. $70^0$

**Q.2 Attempt the following (Activity)(Any One)** **2**

**1** In the figure m (arc LN) = 110°, m (arc PQ) = 50° then complete the following activity to find ∠LMN.

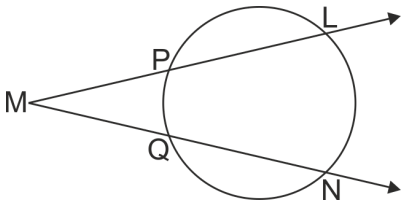
∠LMN = $\frac{1}{2}$ [m (arc LN) - [_____]

∴ ∠LMN = $\frac{1}{2}$ [_____ - 50°]

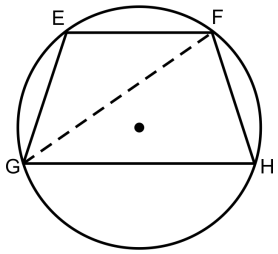
∴ ∠LMN = $\frac{1}{2}\times$ _____

∴ ∠LMN = _____

r




**2**

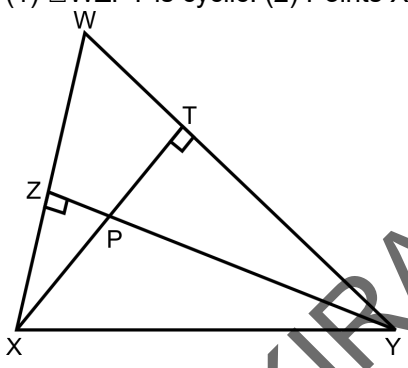



In chord EF || chord GH. Prove that, chord EG ≅ chord FH.
Fill in the blanks and write the proof.

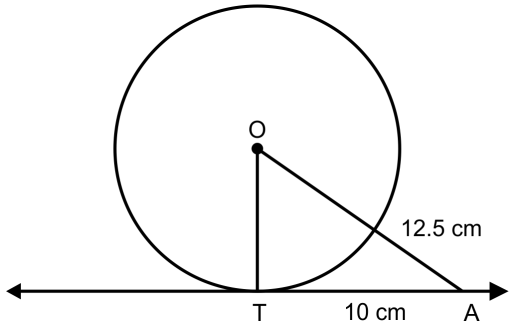
Proof : Draw seg GF.
∠EFG = ∠FGH ... [_____] (I)
∠EFG = _____ ... [inscribed angle theorem] (II)
∠FGH = _____ ... [inscribed angle theorem] (III)
∴ m(arc EG) = _____ ... [from (I), (II), (III)]
∴ chord EG ≅ chord FH... [_____]

**Q.3 Answer the following (Any Two)** **4**

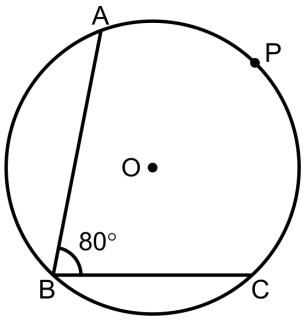
**1** In altitudes YZ and XT of △WXY intersect at P. Prove that,
(1) □WZPT is cyclic. (2) Points X, Z, T, Y are concyclic.



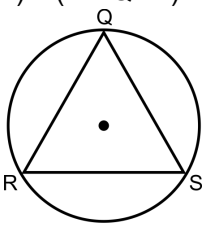

**2** In the figure, line AT is a tangent to the circle with centre O. T is the point of contact.
Find the radius of the circle, if OA = 12.5 cm and AT = 10 cm.




**3** In the figure, ∠ABC = 80°. Find m (arc APC).




**4** In fig, $\triangle QRS$ is an equilateral triangle. Prove that,
i) arc RS $\cong$ arc QS $\cong$ arc QR
ii) m(arc QRS) = $240^0$.

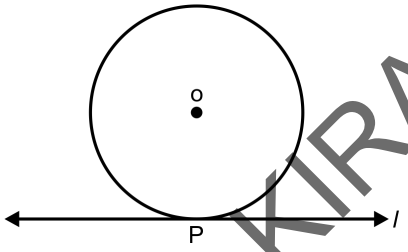



**Q.4 Solve the following (Any Three)** **9**

**1** Prove: Inscribed angle theorem

**2** Draw a circle with centre O and radius 3.5 cm. Take point P at a distance of 5.7 cm. from the centre. Draw a tangent to the circle from point P.

**3** Line l touches a circle with centre O at point P. If radius of the circle is 9 cm, answer the following.
(1) What is d(O, P) = ? Why ?
(2) If d(O, Q) = 8 cm, where does the point Q lie ?
(3) If d(O,R) = 15 cm, How many locations of point R are line on line l ? At what distance will each of them be from point P ?




**4** If radii of two circles are 4 cm and 2.8 cm. Draw figure of these circles touching each other - (i) externally (ii) internally.

**5** $\square MRPN$ is cyclic, $\angle R=(5x - 13)°$, $\angle N = (4x + 4)°$. Find measures of $\angle R$ and $\angle N$.