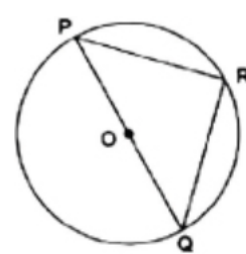
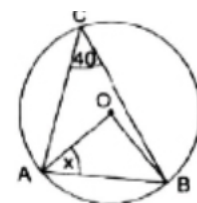


**BCM SCHOOL, BASANT AVENUE, DUGRI, LUDHIANA.**  
**OCTOBER ASSIGNMENT**  
**CLASS- IX (MATHEMATICS)**  
**TOPICS: QUADRILATERALS & CIRCLES.**

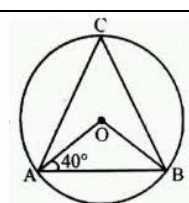
**SECTION –A (MULTIPLE CHOICE QUESTIONS)**

- |    |   |
|----|---|
| 1. | Which of the following is not true for a parallelogram?<br>a) Diagonals bisect each other.<br>b) Opposite sides are equal<br>c) Opposite angles are equal<br>d) Opposite angles are bisected by the diagonals |
| 2. | In the figure, if O is the centre of the circle, then the measure of x is:<br>a) $40^\circ$ b) $80^\circ$ c) $50^\circ$ d) $110^\circ$  |
| 3. | In the figure, O is the centre of the circle and $PR = QR$ . What is the measure of $\angle PQR$ ?<br>a) $60^\circ$<br>b) $110^\circ$<br>c) $75^\circ$<br>d) $45^\circ$                                       |



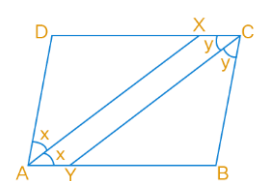
**SECTION B( 2 MARKS QUESTIONS)**

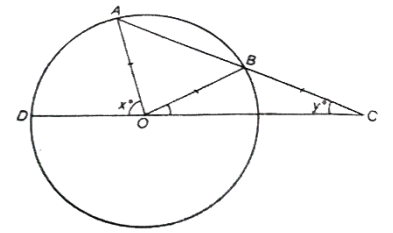
- |    |  |
|----|--|
| 4. | In the given figure, if $\angle OAB = 40^\circ$ , then find the measure of $\angle ACB$ .  |
| 5. | In quadrilateral PQRS, if $\angle P = 60^\circ$ and $\angle Q : \angle R : \angle S = 2:3:7$ , then find the measure of $\angle S$ . |



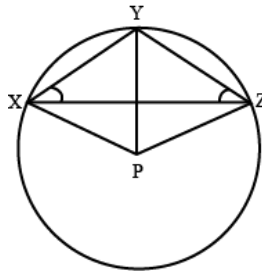
**SECTION – C (3 MARKS QUESTIONS)**

- |    |   |
|----|---|
| 6. | ABCD is a parallelogram and line segments AX, CY bisect the angles A and C, respectively. Show that $AX \parallel CY$ . |
|----|---|

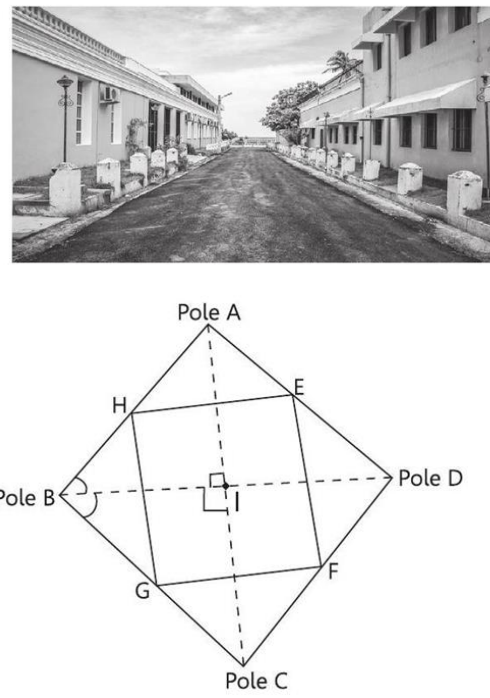


7.	<p>In the figure, chord AB of circle with centre O, is produced to C such that BC = OB. CO is joined and produced to meet the circle in D. If <math>\angle ACD = y</math> and <math>\angle AOD = x</math>, show that <math>x = 3y</math>.</p>	
----	---	---

**SECTION – D (5 MARKS QUESTIONS)**

8.	<p>The line segment joining the mid-points of any two sides of a triangle is parallel to the third side and equal to half of it.</p>	
9.	<p>In the given figure, P is the centre of the circle. Prove that : <math>\angle XPZ = 2(\angle XZY + \angle YXZ)</math></p>	

**SECTION – E (CASE STUDY)**

10.	<p>Due to frequent robberies in the colony during night. The secretary with the members together decides to attach more lights besides the street light set by municipality. There are poles on which lights are attached.</p> <p>These 4 poles are connected to each other through wire and they form a quadrilateral. Light from pole B focus light on mid-point G of wire between pole C and B, from pole C focus light on mid-point F of wire between pole C and pole D. Similarly pole D and pole A focus light on the mid-point E and H respectively.</p> <p>On the basis of the above information, solve the following questions:</p> <ol style="list-style-type: none"> <li>If BD is the bisector of <math>\angle B</math> then prove that I is the mid-point of AC.</li> <li>Prove that quadrilateral EFGH is a parallelogram.</li> <li>Is it true that every parallelogram is a rectangle?</li> </ol>	
-----	---	--