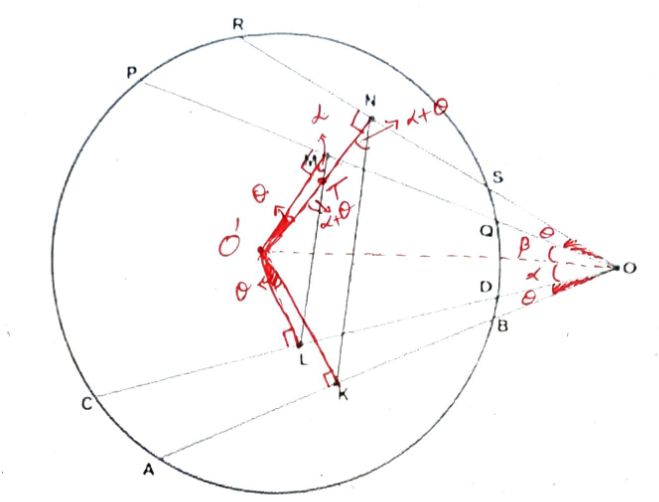
**FIRST PRIZE WINNER MR.HARAGOPAL’S SOLUTION**

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**Given:**

**L, M, N, K are midpoints**

**To prove: LMKN**

**Construction:**

**Let be the center of circle and join it with the points L, M, N, K. Join**

**Proof:**

**Let &**

**As is the center and L, M, N, K are midpoints of chords then**

**[from the theorems of circles from class 9th bisector of any chord passes through center (or) from center to chord bisects it]**

**Now as and as they are same segment angles.**

**[ same segment angles are equal] ---- (1)**

**Similarly as and as they are same segment angles.**

**are cyclic**

**[Same segment angles are equal] --------------- (2)**

**And in quadrilateral**

**as**

**is also cyclic [same segment angles] -------------------------------(3)**

**= = +**

**And in quadrilateral MOL**

**as**

**is also cyclic.**

**[Same segment angles are equal]**

**Let the intersection of lines LM & be the point "T"**

**Now in , is the exterior angle = +----------(5) [Exterior angle property of triangle]**

**Now for the lines LM & KN, is the transversal and the angles.**

**& are corresponding angles as they both are equal to " +**

**LMKN**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***