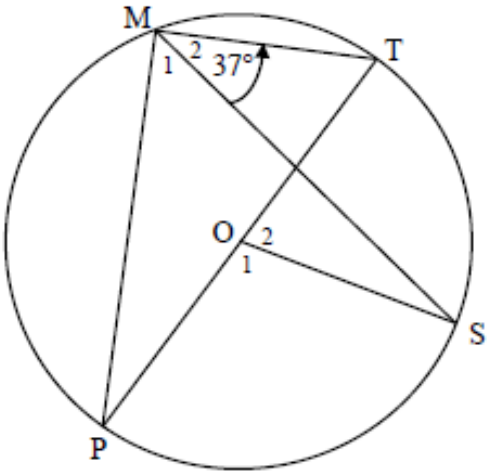
MONYETLA PROJECT SUMMER CAMP DEC 2020
MATHEMATICS
EUCLIDEAN GEOMETRY
GRADE 11
EXAM-TYPE QUESTIONS

QUESTION 8

8.1 In the diagram below, PT is a diameter of the circle with centre O. M and S are points on the circle on either side of PT.
MP, MT, MS and OS are drawn.

$\hat{M}_2 = 37°$

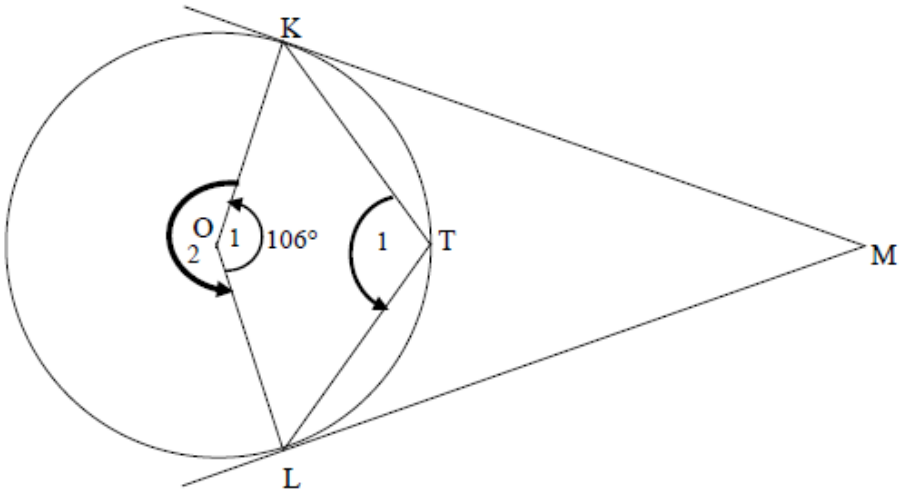


Calculate, with reasons, the size of:

8.1.1 $\hat{M}_1$ (2)

8.1.2 $\hat{O}_1$ (2)

8.2 In the diagram O is the centre of the circle. KM and LM are tangents to the circle at K and L respectively. T is a point on the circumference of the circle. KT and TL are joined. $\hat{O}_1 = 106°$.



8.2.1 Calculate, with reasons, the size of $\hat{T}_1$. (3)

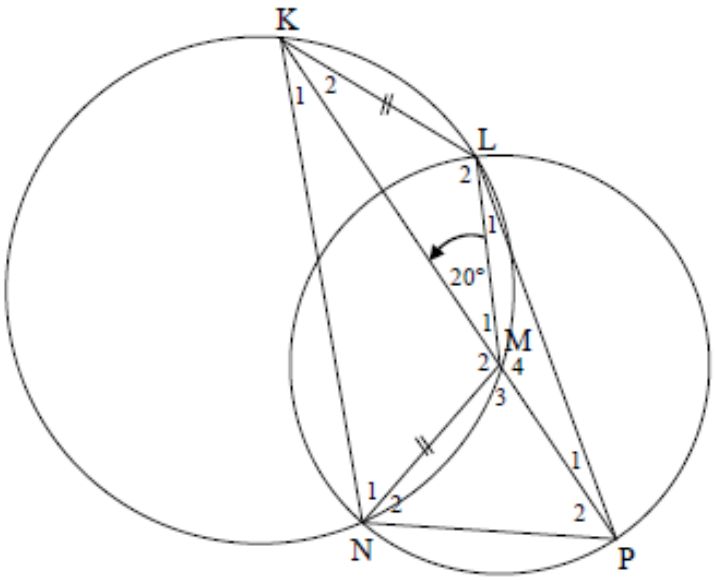
8.2.2 Prove that quadrilateral OKML is a kite. (3)

8.2.3 Prove that quadrilateral OKML is a cyclic quadrilateral. (3)

8.2.4 Calculate, with reasons, the size of $\hat{M}$. (2)
[15]

QUESTION 9

In the diagram M is the centre of the circle passing through points L, N and P.
PM is produced to K. KLMN is a cyclic quadrilateral in the larger circle having KL = MN.
LP is joined. $\hat{KML} = 20°$.



9.1 Write down, with a reason, the size of $\hat{NKM}$. (2)

9.2 Give a reason why KN || LM. (1)

9.3 Prove that KL = LM. (2)

9.4 Calculate, with reasons, the size of:

9.4.1 $\hat{KNM}$ (4)

9.4.2 $\hat{LPN}$ (3)

[12]