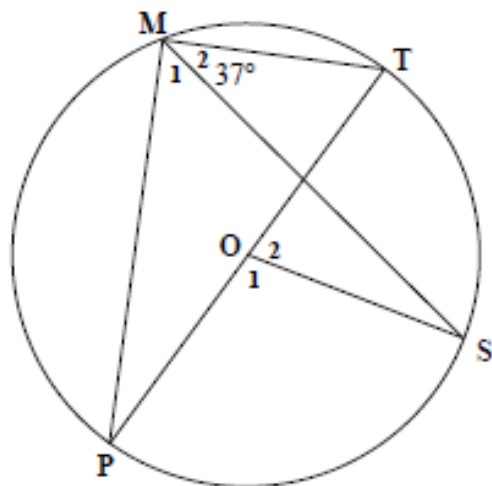


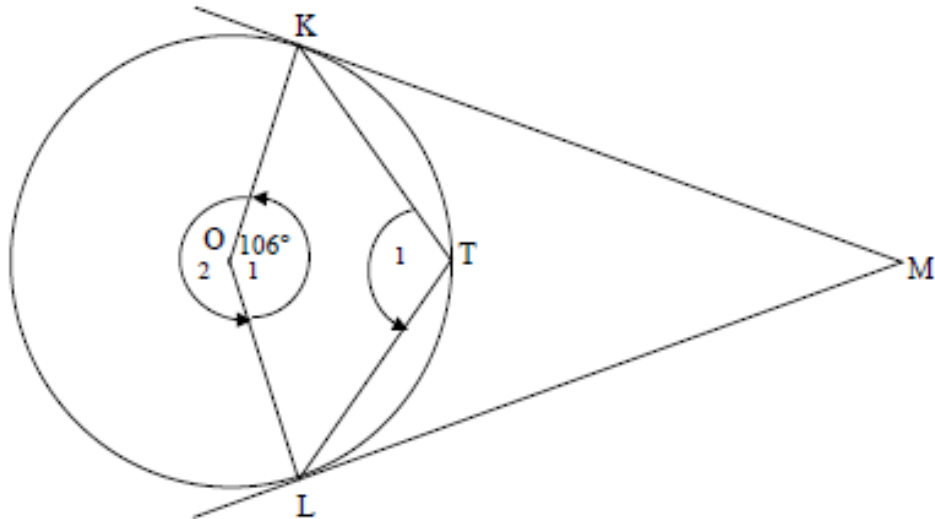
QUESTION/VRAG 8

8.1



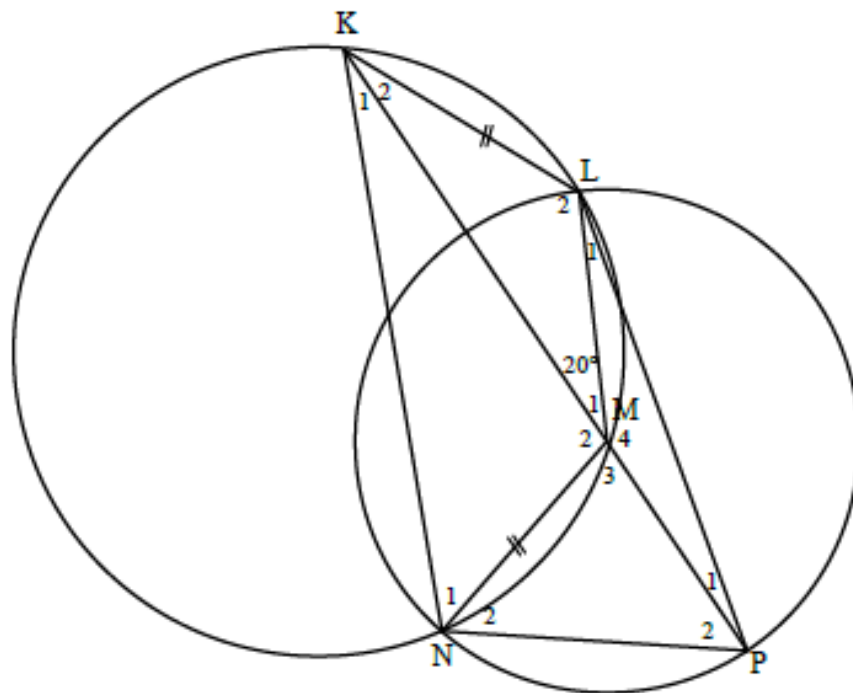
8.1.1	$\hat{M}_1 + \hat{M}_2 = 90^\circ$ ( $\angle$ in semi circle/ $\angle$ in halfsirkel or/of diameter subtends right $\angle$ /midlyn onderspan regte $\angle$ / or/of $\angle \frac{1}{2} \odot$ )  $\hat{M}_1 = 53^\circ$  <b>OR/OF</b>  $\hat{O}_2 = 74^\circ$ ( $\angle$ at centre/midpt = $2 \times \angle$ at circum/by omtrek) $\hat{O}_1 = 106^\circ$ ( $\angle$ s on a str line/ $\angle$ e op reguitlyn) $\hat{M}_1 = 53^\circ$ ( $\angle$ at centre/midpt = $2 \times \angle$ at circum/by omtrek)	$\checkmark$ S/R  $\checkmark$ S  $\checkmark$ S/R  $\checkmark$ S  (2)
8.1.2	$\hat{O}_1 = 2 \times \hat{M}_1$ ( $\angle$ at centre/midpt = $2 \times \angle$ at circum/by omtrek) $\hat{O}_1 = 106^\circ$  <b>OR/OF</b>  $\hat{O}_2 = 74^\circ$ ( $\angle$ at centre/midpt = $2 \times \angle$ at circum/by omtrek) $\hat{O}_1 = 106^\circ$ ( $\angle$ s on a str line/ $\angle$ e op reguitlyn)	$\checkmark$ S/R $\checkmark$ S  $\checkmark$ S/R $\checkmark$ S  (2)

8.2



8.2.1	$\hat{O}_2 = 360^\circ - 106^\circ = 254^\circ$ ( $\angle$ s round a pt or $\angle$ s in a rev) ( $\angle$ e om 'n pt of $\angle$ e omw) $\hat{T}_1 = \frac{1}{2} \times \hat{O}_2$ ( $\angle$ at centre/midpt = $2 \times \angle$ at circum/by omtrek) $= 127^\circ$	✓ S ✓ S ✓ R	(3)
8.2.2	$KO = OL$ (radii equal/radiusse gelyk) $KM = ML$ (Tans from common/same pt/rklyne van dies pt) $\therefore KOLM$ is a kite (adj sides of quad are =/aangr sye v vh =)	✓ S ✓ S/R ✓ S/R	(3)
8.2.3	$\hat{O}KM = 90^\circ$ (tan/rkl $\perp$ radius or/of tan/rkl $\perp$ diam/midlyn) $\hat{O}LM = 90^\circ$ (tan/rkl $\perp$ radius or/of tan/rkl $\perp$ diam/midlyn) $\hat{O}KM + \hat{O}LM = 180^\circ$ $OKML = \text{cyc quad/kdvh}$ (opp $\angle$ s quad supp or converse opp $\angle$ s of cyclic quad)/ (tos $\angle$ e vierh supp of omgek tos $\angle$ e van kdvh)	✓ S/R ✓ S ✓ R	(3)
8.2.4	$\hat{M} + \hat{O}_1 = 180^\circ$ (opp $\angle$ s of cyclic quad/tos $\angle$ e van kdvh) $\hat{M} = 74^\circ$	✓ R ✓ S	(2) [15]

QUESTION/VRAAG 9



9.1	$\hat{NKM} = \hat{K}_1 = 20^\circ$ (equal chords; equal $\angle$ s) (gelyke koorde; gelyke $\angle$ e)	✓ S ✓ R	(2)
9.2	Alternate $\angle$ s are equal/verwiss $\angle$ e gelyk	✓ R	(1)
9.3	$NM = LM$ (radii) $NM = KL$ (given/gegee) $\therefore KL = LM$	✓ S ✓ S	(2)
9.4.1	$\hat{MKL} = \hat{K}_2 = 20^\circ$ ( $\angle$ s/e opp equal sides/to gelyke sye) $\hat{KLM} = \hat{L}_2 = 140^\circ$ ( $\angle$ s sum in $\Delta$ / $\angle$ e som in $\Delta$ ) $\hat{KNM} = \hat{N}_1 = 180^\circ - 140^\circ = 40^\circ$ (opp $\angle$ s of cyclic quad/ tos $\angle$ e van kdvh)	✓ S/R ✓ S ✓ S ✓ R	(4)
9.4.2	$\hat{KMN} = \hat{M}_2 = 180^\circ - (20^\circ + 40^\circ) = 120^\circ$ ( $\angle$ s sum in $\Delta$ / $\angle$ e som in $\Delta$ ) $\hat{LMN} = \hat{M}_1 + \hat{M}_2 = 20^\circ + 120^\circ = 140^\circ$ $\hat{LPN} = \hat{P}_1 + \hat{P}_2 = 70^\circ$ ( $\angle$ at centre = $2 \times \angle$ at circumference) ( $\angle$ by midpt = $2 \times \angle$ by omtrek)	✓ S ✓ S ✓ R	(3) [12]