basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

SENIOR CERTIFICATE EXAMINATIONS/
SENIORSERTIFIKAAT-EKSAMEN
NATIONAL SENIOR CERTIFICATE EXAMINATIONS/
NASIONALE SENIORSERTIFIKAAT-EKSAMEN

MATHEMATICS P2/*WISKUNDE V2*

MARKING GUIDELINES/*NASIENRIGLYNE*

MAY/JUNE/*MEI/JUNIE* 2023

MARKS: 150
PUNTE: 150

These marking guidelines consist of 21 pages./
Hierdie nasienriglyne bestaan uit 21 bladsye.

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NOTE:

- If a candidate answers a question TWICE, mark only the FIRST attempt.
- If a candidate has crossed out an attempt at an answer and not redone the question, mark the crossed-out version.
- Consistent accuracy applies in ALL aspects of the marking guidelines. Stop marking at the second calculation error.
- Assuming answers/values in order to solve a problem is NOT acceptable.

LET WEL:

- *As 'n kandidaat 'n vraag TWEE KEER beantwoord, sien slegs die EERSTE poging na.*
- *As 'n kandidaat 'n antwoord van 'n vraag doodtrek en nie oordoen nie, merk die doodgetrekte poging.*
- *Volgehoue akkuraatheid word in ALLE aspekte van die nasienriglyne toegepas. Hou op nasien by die tweede berekeningsfout.*
- *Aanvaar van antwoorde/waardes om 'n probleem op te los, word NIE toegelaat nie.*

GEOMETRY • *MEETKUNDE*	
S	**A mark for a correct statement** ***(A statement mark is independent of a reason)***
	'n Punt vir 'n korrekte bewering ***('n Punt vir 'n bewering is onafhanklik van die rede)***
R	**A mark for the correct reason** ***(A reason mark may only be awarded if the statement is correct)***
	'n Punt vir 'n korrekte rede ***('n Punt word slegs vir die rede toegeken as die bewering korrek is)***
S/R	**Award a mark if statement AND reason are both correct**
	Ken 'n punt toe as die bewering EN rede beide korrek is

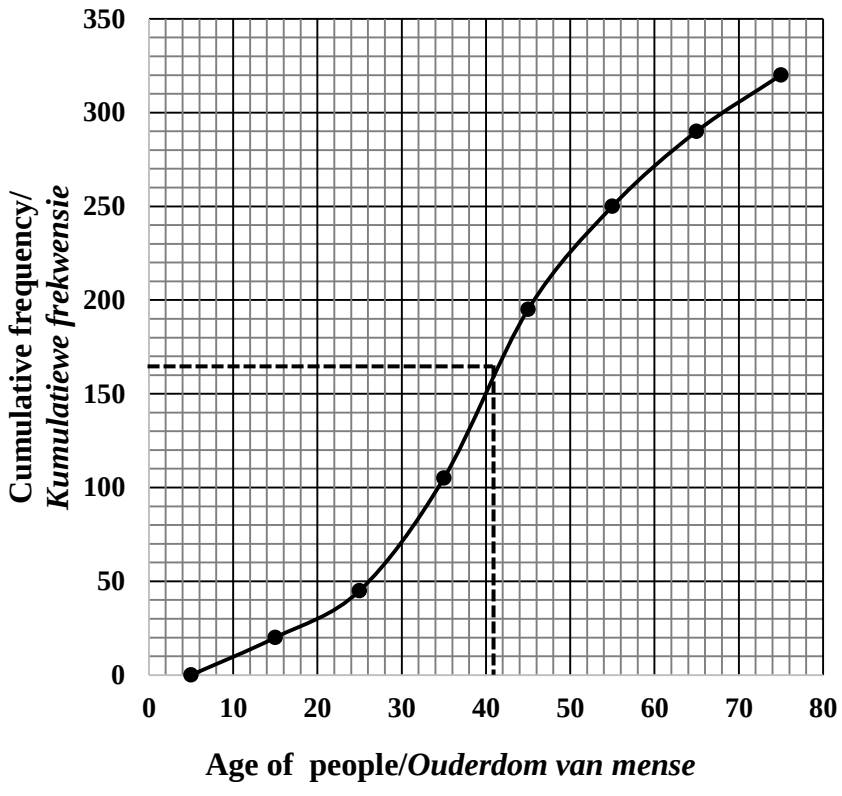
QUESTION/*VRAAG 1*

1.1.1	$a = 1730{,}22$ $b = 13{,}96$ $\hat{y} = 1730{,}22 + 13{,}96x$	✓ $a = 1730{,}22$ ✓ $b = 13{,}96$ ✓ equation (3)
1.1.2	$\hat{y} = 1730{,}22 + 13{,}96x$ $\hat{y} = 1730{,}22 + 13{,}96(28\,500)$ $\hat{y} = \text{R}399\,590{,}22$ **OR/*OF*** $\hat{y} =$ R399 599,64 (calc)	✓ substitution ✓ answer (2) ✓✓ answer (2)
1.1.3	$r = 0{,}98002\ldots$ $r = 0{,}98$	✓ answer (1)
1.1.4	There is a very strong positive correlation between the amount spent on advertising and sales. / *Daar is 'n baie sterk positiewe korrelasie tussen die bedrag spandeer op advertensie en die verkope.*	✓ strong positive (1)
1.2.1	$\bar{x} = \frac{1\,552\,195}{9}$ $\bar{x} = 172\,466{,}11$	✓ $\bar{x} = \frac{1\,552\,195}{9}$ ✓ answer (2)
1.2.2	$\sigma = 56\,950{,}09$	✓ answer (1)
1.2.3	$\bar{x} + \sigma$ $= 172\,466{,}11 + 56\,950{,}09$ $= 229\,416{,}20$ 2 years/*jaar*	✓ $\bar{x} + \sigma$ ✓ answer (2)
		[12]

QUESTION/*VRAAG 2*

<table>
<tr><td>2.1</td><td>$35 < x \leq 45$</td><td>✓ answer

(1)</td></tr>
<tr><td>2.2</td><td>320 people/mense</td><td>✓ answer

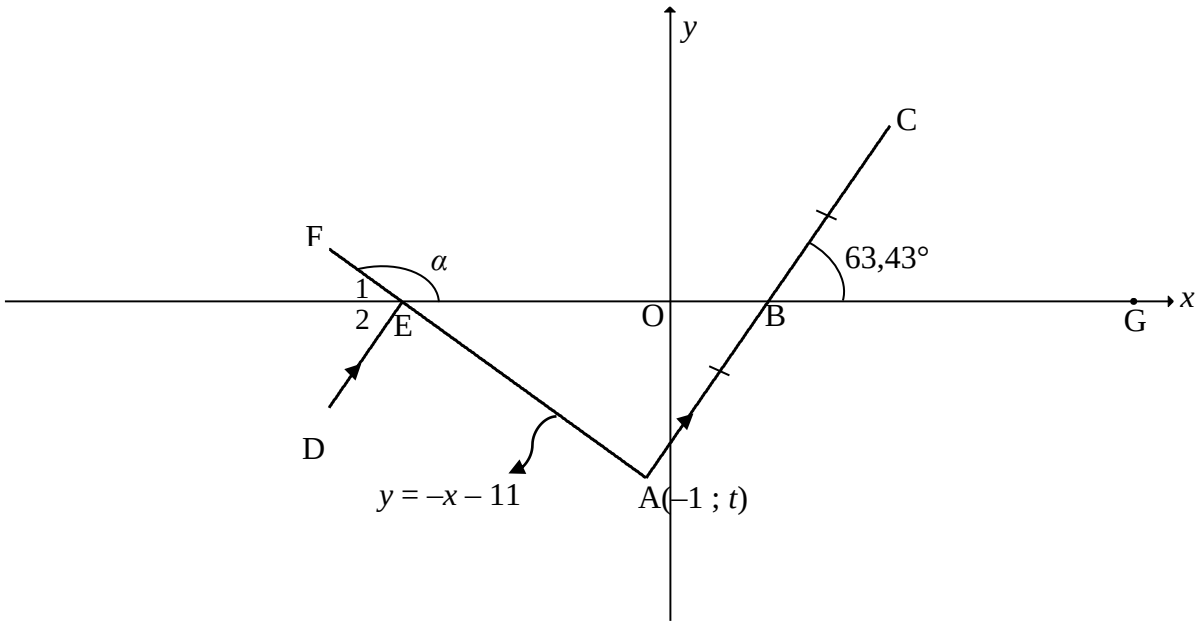
(1)</td></tr>
<tr><td>2.3</td><td>
<table>
<tr><th>AGE</th><th>NUMBER OF PEOPLE</th><th>CUMULATIVE FREQUENCY</th></tr>
<tr><td>$5 < x \leq 15$</td><td>20</td><td>20</td></tr>
<tr><td>$15 < x \leq 25$</td><td>25</td><td>45</td></tr>
<tr><td>$25 < x \leq 35$</td><td>60</td><td>105</td></tr>
<tr><td>$35 < x \leq 45$</td><td>90</td><td>195</td></tr>
<tr><td>$45 < x \leq 55$</td><td>55</td><td>250</td></tr>
<tr><td>$55 < x \leq 65$</td><td>40</td><td>290</td></tr>
<tr><td>$65 < x \leq 75$</td><td>30</td><td>320</td></tr>
</table>
OGIVE/OGIEF


</td><td>✓ cumulative frequency
✓ grounding
✓ plotting at upper limit
✓ shape

(4)</td></tr>
<tr><td>2.4</td><td>Median = 41</td><td>✓✓ answer

(2)</td></tr>
<tr><td></td><td></td><td>[8]</td></tr>
</table>

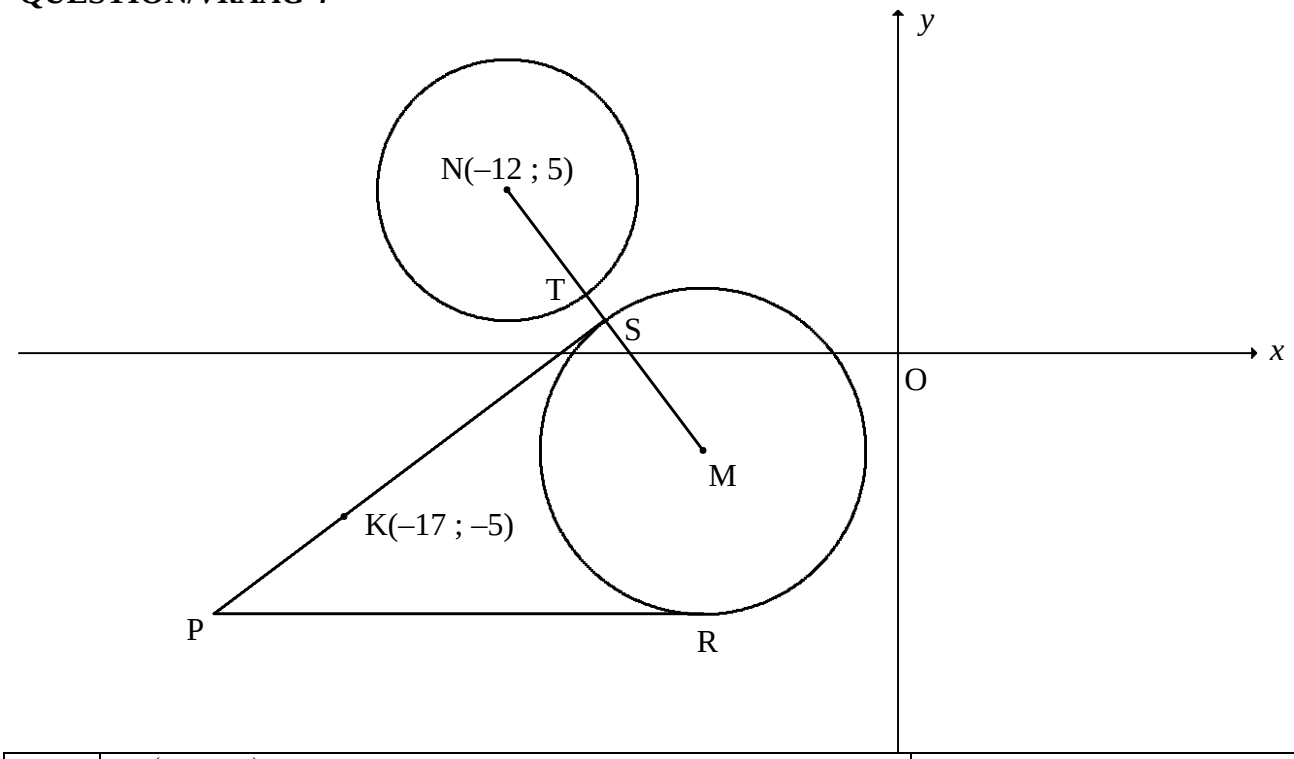
QUESTION/*VRAAG 3*



3.1.1	$y = -x - 11$ A(–1 ; *t*) $t = -(-1) - 11$ $t = -10$	✓ substitution ✓ value of *t* (2)
3.1.2	$\tan\alpha = -1$ $ref.\angle = 45°$ $\therefore \alpha = 135°$	✓ $\tan\alpha = -1$ ✓ 135° (2)
3.1.3	$\tan 63{,}43° = m_{AC}$ $m_{AC} = 2$	✓ $\tan 63{,}43° = m_{AC}$ ✓ answer (2)
3.2	$m_{AC} = 2$ A(–1 ; –10) $y = 2x + k$ $-10 = 2(-1) + k$ $k = -8$ $y = 2x - 8$ **OR/*OF*** $y - y_1 = 2(x - x_1)$ $y - (-10) = 2(x - (-1))$ $y = 2x - 8$	✓ substitution of *m* and A ✓ equation (2)

3.3.1	$y=2x-8$ $0=2x-8$ $x_B=4$ $\frac{x_C+(-1)}{2}=4$ $\quad$ $\frac{y_C+(-10)}{2}=0$ $x_C=9$ $\quad$ $y_C=10$ **OR/*OF*** by translation / *met translasie* $A\rightarrow B\ (x;y)\rightarrow(x+5;y+10)$ $B\rightarrow C\ (4;0)\rightarrow(4+5;\ 0+10)=(9\ ;10)$	✓ $x_B=4$ ✓ $x_C=9$ ✓ $y_C=10$ (3) ✓ $(x+5;y+10)$ ✓ $x_C=9$ ✓ $y_C=10$ (3)
3.3.2	$A\hat{B}E=63,43°$ [vert. opp ∠'s =] $\hat{E}_2=63,43°$ [corres. ∠'s, DE || AB] $\hat{E}_1=45°$ [∠s on a str line] $F\hat{E}D=108,43°$ **OR/*OF*** $E\hat{A}B=135°-63,43°$ $E\hat{A}B=71,57°$ $D\hat{E}A=E\hat{A}B=71,57°$ $F\hat{E}D=108,43°$ **OR/*OF*** $A\hat{B}E=63,43°$ [vert. opp ∠'s] $D\hat{E}O=116,57°$ [co-int. ∠'s, DE || AB] $F\hat{E}D=360°-(116,57°+135°)$ $=108,43°$	✓ $A\hat{B}E=63,43°$ ✓ $\hat{E}_1=45°$ ✓ $F\hat{E}D=108,43°$ (3) ✓ $E\hat{A}B=71,57°$ ✓ $D\hat{E}A=E\hat{A}B=71,57°$ ✓ $F\hat{E}D=108,43°$ (3) ✓ $A\hat{B}E=63,43°$ ✓ $D\hat{E}O=116,57°$ ✓ $F\hat{E}D=108,43°$ (3)
3.4	$y=0$ $x_E=-11$ $\frac{x_G+(-11)}{2}=4$ $x_G=19$ $(x-19)^2+y^2=15^2$ $(x-19)^2+y^2=225$	✓ $x_E=-11$ ✓ $x_G=19$ ✓ $(x-19)^2+y^2$ ✓ 225 (4)
		[18]

QUESTION/*VRAAG 4*

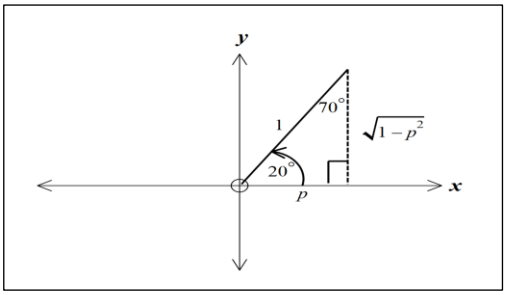


4.1	$M(-6;-3)$	✓ –6 ✓ –3 (2)
4.2.1	$x^2+y^2+24x-10y+153=0$ $(x+12)^2+(y-5)^2=-153+144+25$ $(x+12)^2+(y-5)^2=16$ $r^2=16$ $r=4$ units	✓ $r^2=-153+144+25$ ✓ length of radius (2)
4.2.2	$NM=\sqrt{(-12-(-6))^2+(5-(-3))^2}$ NM = 10 units SM = 5 units $\therefore$ TS = 10 – 5 – 4 = 1 unit	✓ substitution into distance formula ✓ NM = 10 units ✓ SM = 5 units ✓ answer (4)
4.3.1	R(–6 ; –8) $y=-8$	✓ $y_R=-8$ ✓ answer (2)

4.3.2	$m_{NM} = \frac{5-(-3)}{-12-(-6)}$ $m_{NM} = -\frac{4}{3}$ $m_{tangent} = \frac{3}{4}$ $-5 = \frac{3}{4}(-17)+c$ **OR/*OF*** $y - y_1 = \frac{3}{4}(x - x_1)$ $c = \frac{31}{4}$ $y-(-5) = \frac{3}{4}(x-(-17))$ $y = \frac{3}{4}x + \frac{31}{4}$ $y = \frac{3}{4}x + \frac{31}{4}$ **OR/OF** NS = SM = 5 $S\left(\frac{-12-6}{2}\ ;\ \frac{5-3}{2}\right)$ S (– 9 ; 1) $m_{SK} = \frac{1-(-5)}{-9+17}$ $= \frac{6}{8} = \frac{3}{4}$ $y+5 = \frac{3}{4}(x+17)$ $y = \frac{3}{4}x + \frac{31}{4}$ *or* $y = \frac{3}{4}x + 7\frac{3}{4}$	✓ substitution ✓ $m_{NM} = -\frac{4}{3}$ ✓ $m_{tangent} = \frac{3}{4}$ ✓ substitution of *m* and N ✓ equation (5) ✓ S midpoint ✓ coordinates of S ✓ $m_{tangent} = \frac{3}{4}$ ✓ substitution of *m* and K(–17 ; –5) or S ✓ equation (5)
4.4.1	$-8 = \frac{3}{4}x + \frac{31}{4}$ $-32 = 3x + 31$ $3x = -63$ $x = -21$ P(–21 ; –8) R(–6 ; –8) PR = PS = 15 units [tangents from same point] MS = MR = 5 units Perimeter PSMR = 15 + 15 + 5 + 5 = 40 units	✓ $-8 = \frac{3}{4}x + \frac{31}{4}$ ✓ $x = -21$ ✓ PR = PS = 15 units ✓ MS = MR = 5 units ✓ answer (5)

4.4.2	$\frac{\text{area of } \Delta NPS}{\text{area of quadrilateral PSMR}}$ $\frac{\frac{1}{2}NS.SP}{\frac{1}{2}SP.MS+\frac{1}{2}MR.PR}$ $=\frac{\frac{1}{2}(5)(15)}{2\left(\frac{1}{2}\right)(5)(15)}$ $=\frac{1}{2}$ **OR** $\Delta NPS \equiv \Delta SPM \equiv \Delta MPR$ $\frac{\text{area of } \Delta NPS}{\text{area of quadrilateral PSMR}}$ $=\frac{1}{2}$	✓ substitution ✓ answer (2) ✓ congruent ✓ answer (2)
		[22]

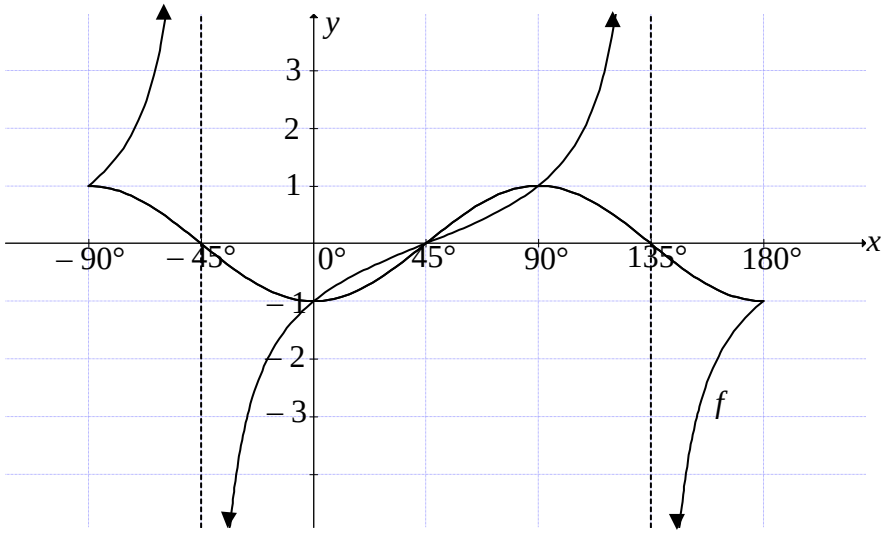
QUESTION/*VRAAG 5*

5.1	$\dfrac{1-\sin(-\theta)\cos(90°+\theta)}{\cos(\theta-360°)}$ $=\dfrac{1-(-\sin\theta)(-\sin\theta)}{\cos\theta}$ $=\dfrac{1-\sin^2\theta}{\cos\theta}$ $=\dfrac{\cos^2\theta}{\cos\theta}$ $=\cos\theta$	✓ $-\sin\theta$ ✓ $-\sin\theta$ ✓ $\cos\theta$ ✓ $\cos^2\theta$ ✓ answer (5)
5.2.1	$\cos 200°$ $=-\cos 20°$ $=-p$	✓ reduction ✓ answer (2)
5.2.2	$\sin(-70°)$ $=-\sin 70°$ $=-\cos 20°$ $=-p$ **OR/*OF*** $\sin(-70°)$ $=-\sin 70°$ $=-p$  	✓ reduction ✓ answer (2) ✓ reduction ✓ answer (2)
5.2.3	$\sin 10°$ $\cos(2(10°))=1-2\sin^2 10°$ $2\sin^2 10°=1-\cos 20°$ $\sin 10°=\sqrt{\dfrac{1-\cos 20°}{2}}$ $\sin 10°=\sqrt{\dfrac{1-p}{2}}$ **OR/*OF*** $\sin 10°$ $\sin(30°-20°)$ $=\sin 30°\cos 20°-\cos 30°\sin 20°$ $=\dfrac{1}{2}p-\dfrac{\sqrt{3}}{2}\sqrt{1-p^2}=\dfrac{p-\sqrt{3}\sqrt{1-p^2}}{2}$ **OR/*OF***	✓ double angle ✓ $\sin 10°$ as subject ✓ answer (3) ✓ using special angle ✓ expanding ✓ answer (3)

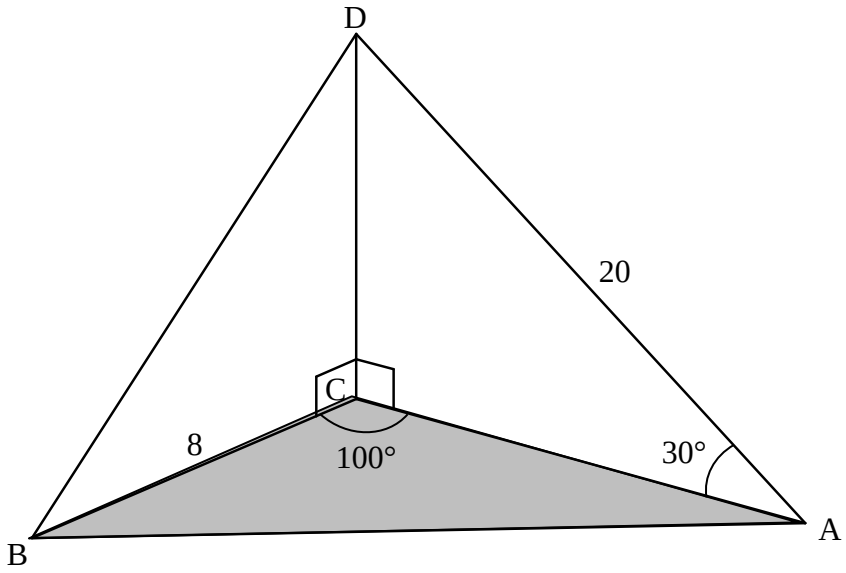
	$\sin 10°$ $\sin(70° - 60°)$ $= \sin 70° \cos 60° - \cos 70° \sin 60°$ $= p.\frac{1}{2} - \sqrt{1-p^2} \times \frac{\sqrt{3}}{2} = \frac{p - \sqrt{3}\sqrt{1-p^2}}{2}$ **OR/*OF*** $\sin 10°$ $= \cos 80°$ $\cos(60° + 20°)$ $= \cos 60° \cos 20° - \sin 60° \sin 20°$ $= \frac{1}{2} p - \frac{\sqrt{3}}{2}.\sqrt{1-p^2}$	✓ using special angle ✓ expanding ✓ answer (3) ✓ using special angle ✓ expanding ✓ answer (3)
5.3	$\cos(A + 55°)\cos(A + 10°) + \sin(A + 55°)\sin(A + 10°)$ $= \cos[A + 55° - (A + 10°)]$ $= \cos 45°$ $= \frac{1}{\sqrt{2}}$ or $\frac{\sqrt{2}}{2}$	✓✓ compound identity ✓ answer (3)
5.4.1	LHS = $\frac{\cos 2x + \sin 2x - \cos^2 x}{\sin x - 2\cos x}$ RHS = $-\sin x$ $= \frac{\cos^2 x - \sin^2 x + 2\sin x \cos x - \cos^2 x}{\sin x - 2\cos x}$ $= \frac{-\sin^2 x + 2\sin x \cos x}{\sin x - 2\cos x}$ $= \frac{-\sin x(\sin x - 2\cos x)}{\sin x - 2\cos x}$ $= -\sin x$ $\therefore$ LHS = RHS	✓ $\cos^2 x - \sin^2 x$ ✓ $2\sin x \cos x$ ✓ common factor of $-\sin x$ (3)
5.4.2	$\frac{\cos 2x + \sin 2x - \cos^2 x}{-3\sin^2 x + 6\sin x \cos x}$ $= \frac{\cos 2x + \sin 2x - \cos^2 x}{-3\sin x(\sin x - 2\cos x)}$ $= \frac{\cos 2x + \sin 2x - \cos^2 x}{(\sin x - 2\cos x)} \times \frac{1}{-3\sin x}$ $= (-\sin x) \times \frac{1}{-3\sin x}$ $= \frac{1}{3}$	✓ common factor of $-3\sin x$ ✓ substitution ✓ answer (3)

5.5.1	$3\tan 4x = -2\cos 4x$ $3\left(\frac{\sin 4x}{\cos 4x}\right) = -2\cos 4x$ $3\sin 4x + 2\cos^2 4x = 0$ $3\sin 4x + 2(1-\sin^2 4x) = 0$ $-2\sin^2 4x + 3\sin 4x + 2 = 0$ $2\sin^2 4x - 3\sin 4x - 2 = 0$ $(2\sin 4x + 1)(\sin 4x - 2) = 0$ $\sin 4x = -\frac{1}{2}$ or $\sin 4x \neq 2$	✓ identity ✓ $1-\sin^2 4x$ ✓ standard form ✓ factors (4)
5.5.2	$\sin 4x = -\frac{1}{2}$ *ref.* $\angle = 30°$ $4x = 210° + k.360°$ or $4x = 330° + k.360°$ $x = 52{,}5° + k.90°$; $k \in Z$ $x = 82{,}5° + k.90°$; $k \in Z$	✓ 210° ; 330° ✓ 52,5° ; 82,5° ✓ $k.90°$; $k \in Z$ (3)
		[28]

QUESTION/VRAAG 6

6.1	Period = 180°	✓ answer (1)
6.2		✓ *x*-intercepts ✓ turning points ✓ end points (3)
6.3	$y \in [-1;1]$ **OR/*OF*** $-1 \le y \le 1$	✓ answer (1)
6.4	$g(x) = -\cos 2x$ $g(x+45°) = -\cos 2(x+45°)$ $= -\cos(2x+90°)$ $= \sin 2x$	✓ $-\cos 2(x+45°)$ ✓ answer (2)
6.5.1	$x \in (-90°;-45°)$ **OR/*OF*** $-90° < x < -45°$	✓✓ $x \in (-90°;-45°)$ (2)
6.5.2	$2\cos 2x - 1 > 0$ $\cos 2x > \frac{1}{2}$ $-\cos 2x < -\frac{1}{2}$ $x \in (-30°;30°)$ **OR/*OF*** $-30° < x < 30°$	✓ $\cos 2x > \frac{1}{2}$ ✓ $-\cos 2x < -\frac{1}{2}$ ✓ $x = \pm 30°$ ✓ interval (4)
		[13]

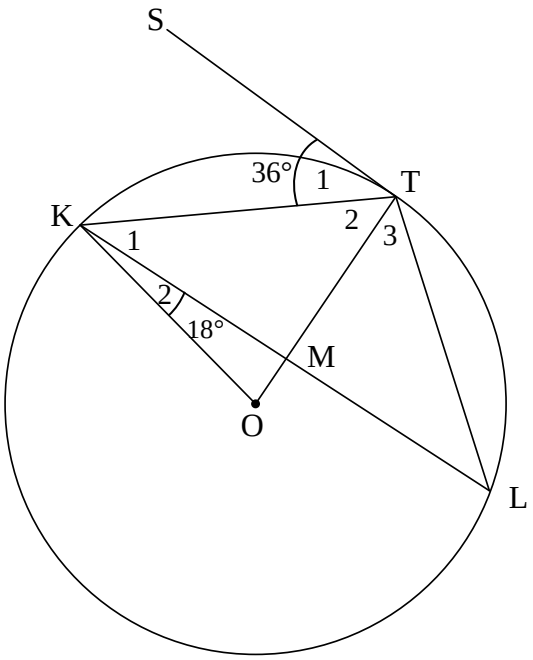
QUESTION/*VRAAG 7*



7.1.1	$\frac{AC}{20} = \cos 30°$ $AC = 20\cos 30°$ $AC = 10\sqrt{3} = 17,32$ units **OR/*OF*** $\frac{AC}{\sin 60°} = \frac{20}{\sin 90°}$ $\therefore AC = 20\sin 60 = 17,32$	✓ trig ratio ✓ answer (2) ✓ trig ratio ✓ answer (2)
7.1.2	$AB^2 = AC^2 + BC^2 - 2AC.BC\cos A\hat{C}B$ $AB^2 = \left(10\sqrt{3}\right)^2 + 8^2 - 2\left(10\sqrt{3}\right)(8)\cos 100°$ $AB = 20,30$ units	✓ cosine formula ✓ substitution into cosine formula ✓ answer (3)
7.2	$\frac{\sin A\hat{D}B}{AB} = \frac{\sin A\hat{B}D}{AD}$ $\frac{\sin A\hat{D}B}{20,3} = \frac{\sin 73,4°}{20}$ $\sin A\hat{D}B = \frac{20,3\sin 73,4°}{20}$ $A\hat{D}B = 76,58°$	✓ sine formula in ΔABD ✓ substitution into sine formula ✓ answer (3)
		[8]

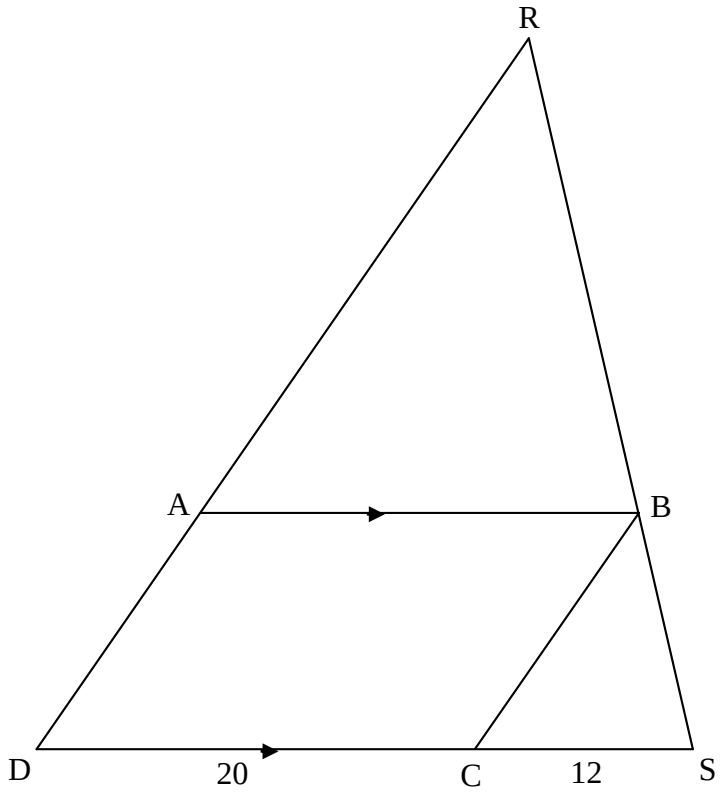
QUESTION/*VRAAG 8*

8.1



8.1.1(a)	$\hat{T}_2 = 54°$	[tan ⊥ rad]	✓ S ✓R (2)
8.1.1(b)	$\hat{L} = 36°$	[tan - chord theorem]	✓ S ✓R (2)
8.1.1(c)	$K\hat{O}T = 72°$	[∠ at centre = 2×∠ at circumference]	✓ S ✓R (2)
	OR/*OF*		
	$O\hat{K}T = \hat{T}_2 = 54°$	[∠s opposite = radii]	✓ S/R
	$K\hat{O}T = 180° - (54° + 54°)$ $= 72°$	[sum of int ∠'s of Δ]	✓ S (2)
8.1.2	$K\hat{M}O = 180° - (18° + 72°)$ $= 90°$	[sum of int ∠'s of Δ]	✓ S ✓ S
	∴ KM = ML	[line from centre ⊥ to chord]	✓ R (3)
	OR/*OF*		
	$O\hat{K}T = 54°$	[∠s opposite = radii]	
	$\hat{K}_1 = 54° - 18° = 36°$		✓ S
	$T\hat{M}K = 90°$	[sum of int ∠'s of Δ]	✓ S
	∴ KM = ML	[line from centre ⊥ to chord]	✓ R (3)

8.2

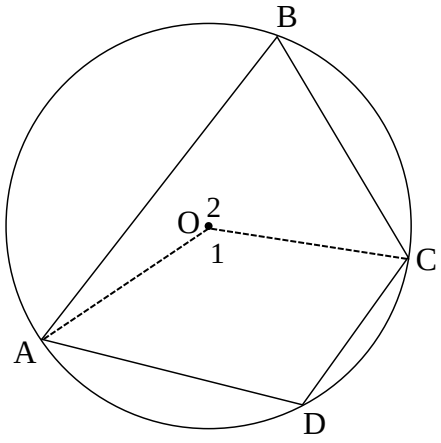


8.2.1	$\frac{DC}{CS}=\frac{20}{12}=\frac{5}{3}$ $\therefore \frac{DC}{CS}=\frac{RB}{BS}$ $\therefore$ BC ‖ DR [converse line ‖ one side of Δ OR sides in the $\therefore$ BC ‖ AD same proportion]	✓ S ✓ S ✓ R (3)
8.2.2	$\frac{AR}{AD}=\frac{RB}{BS}$ [line ‖ one side of Δ] **OR**[Prop Theorem AB ‖ DS] $\frac{AR}{AD}=\frac{5}{3}$ $\frac{48-AD}{AD}=\frac{5}{3}$ $\therefore 5AD = 144-3AD$ $AD = 18$ AB = 20 [opp sides of parm] $\therefore$ AD : AB = 18 : 20 = 9 : 10	✓ $\frac{AR}{AD}=\frac{5}{3}$ ✓ AD = 18 ✓ ratio (3)

	OR/OF $\frac{AR}{RD}=\frac{5}{8}$.....prop thm $AB \parallel DS$ $\frac{AR}{48}=\frac{5}{8}$ $\therefore AR=30$ and $AD=18$ $\therefore \frac{AR}{RD}=\frac{AB}{DS}$.....$\Delta' s$ $\|\|\|$ $\therefore AB=20$ $\therefore AB:AD=18:20=9:10$	✓ $\frac{AR}{RD}=\frac{5}{8}$ ✓ AD = 18 ✓ ratio (3)
		[15]

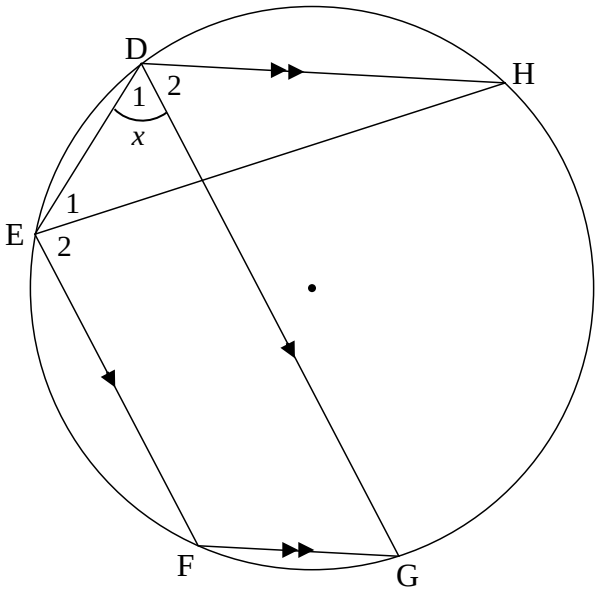
QUESTION/*VRAAG 9*

9.1



9.1	Constr: Draw radii OA and OC. Proof: $\hat{O}_1 = 2\hat{B}$ [$\angle$ at centre = $2\times\angle$ at circumference] $\hat{O}_2 = 2\hat{D}$ [$\angle$ at centre = $2\times\angle$ at circumference] $\hat{O}_1 + \hat{O}_2 = 360°$ [revolution] $2\hat{B} + 2\hat{D} = 360°$ [revolution] $\therefore \hat{B} + \hat{D} = 180°$	✓ Construction ✓ S ✓ R ✓ S/R ✓ S (5)

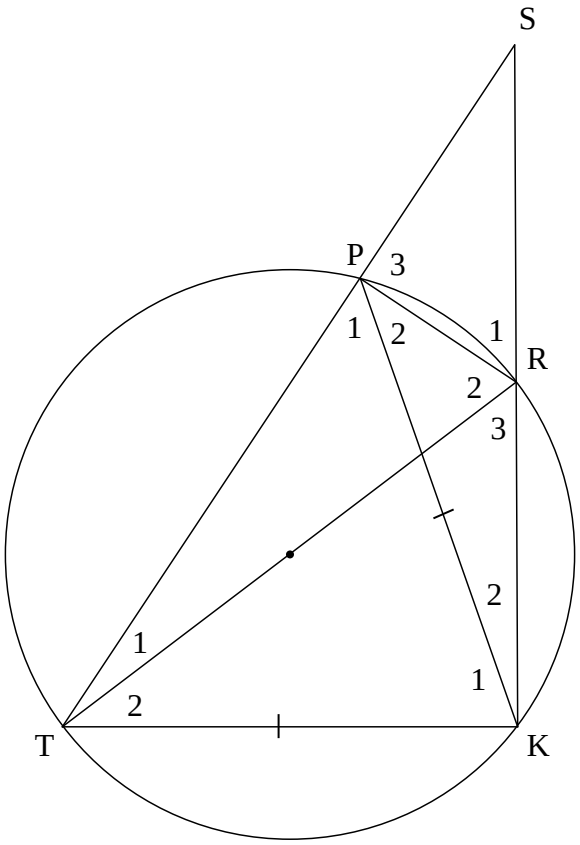
9.2



9.2	$E\hat{F}G = 180° - \hat{D}_1$ [opp ∠'s of cyclic quad] $\therefore E\hat{F}G = 180° - x$ $E\hat{F}G = 180° - \hat{G}$ [co-int ∠'s; EF || DG] $\hat{G} = x$ But $\hat{G} = \hat{D}_2$ [alt ∠'s; DH || FG] $\therefore \hat{D}_1 = \hat{D}_2 = x$	✓S ✓ R ✓S / R ✓ S / R (4)
		[9]

QUESTION/VRAAG 10

10.1



10.1.1	$T\hat{P}R = 90°$	[$\angle$ in semi-circle]	✓S ✓R
	$S\hat{P}R = 90°$	[$\angle$'s on a straight line]	✓S
	$\therefore$ SR is a diameter	[converse $\angle$ in semi-circle]	✓R
			(4)
	OR		
	$T\hat{K}R = 90°$	[$\angle$ in semi-circle]	✓S ✓R
	$S\hat{P}R = 90°$	[ext $\angle$ of cyclic quad]	✓S
	$\therefore$ SR is a diameter	[converse $\angle$ in semi-circle]	✓R
		OR	(4)
		[chord subtends a right angle]	

10.1.2	$\hat{R}_1 = P\hat{T}K$ [ext $\angle$ of cyclic quad] $\hat{P}_1 = P\hat{T}K = \hat{R}_1$ [$\angle$s opp equal sides] $\hat{S} + \hat{R}_1 = \hat{P}_1 + P_2$ [ext $\angle$ of Δ] $\therefore \hat{S} = \hat{P}_2$ [$\hat{R}_1 = \hat{P}_1$]	✓S ✓R ✓S /R ✓S ✓R (5)
10.1.3	In ΔSPK and ΔPRK $\hat{S} = \hat{P}_2$ [proved] $\hat{K}_2 = \hat{K}_2$ [common] ΔSPK ||| ΔPRK [$\angle, \angle, \angle$] **OR/*OF*** In ΔSPK and ΔPRK $\hat{S} = \hat{P}_2$ [proved] $\hat{K}_2 = \hat{K}_2$ [common] $S\hat{P}K = P\hat{R}K$ [sum of $\angle$s in Δ] ΔSPK ||| ΔPRK	✓S ✓S ✓S/R (3) ✓S ✓S ✓S/R (3)
10.2	$\frac{PK}{RK} = \frac{SK}{PK}$ [ΔSPK ||| ΔPRK] $PK^2 = SK.RK$ $ST^2 = SK^2 + TK^2$ [Pythagoras] TK = PK [Given] $ST^2 = SK^2 + PK^2$ $ST^2 = SK^2 + SK.RK$ $ST^2 = (2RK)^2 + 2RK.RK$ $ST^2 = 6RK^2$ $ST = \sqrt{6}RK$	✓S ✓S ✓ $PK^2 = SK.RK$ ✓SK = 2RK ✓ $ST^2 = 6RK^2$ (5)
		[17]

TOTAL/TOTAAL: 150

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