KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

PROVINCIAL STANDARDISED ASSESSMENT

GRADE 11

MATHEMATICS P2

JUNE 2026

MARKS: 100

TIME: 2 hours

This question paper consists of 8 pages and an answer book of 12 pages.

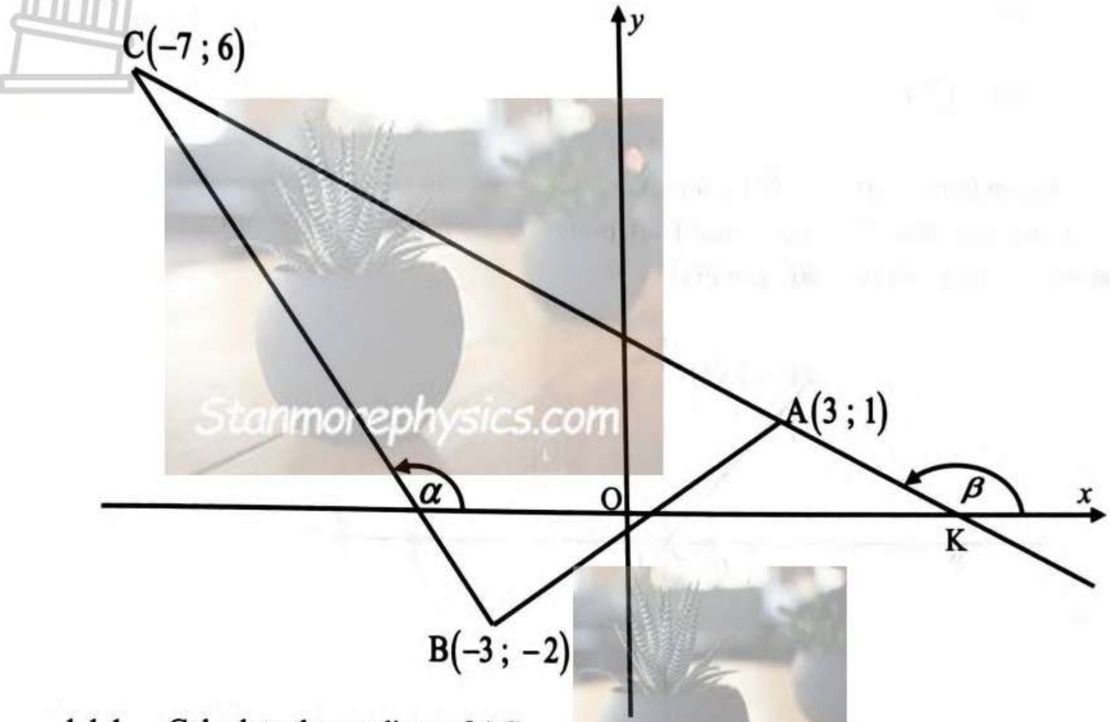
INSTRUCTIONS AND INFORMATION

Read the following instructions and information carefully before answering the questions.

1. This question paper consists of 6 questions.
2. Answer ALL the questions in the SPECIAL ANSWER BOOK provided.
3. Clearly show ALL calculations, diagrams, graphs, et cetera that you have used in determining your answers.
4. Answers only will NOT necessarily be awarded full marks.
5. You may use an approved scientific calculator (non-programmable and non-graphical), unless stated otherwise.
6. If necessary, round off answers to TWO decimal places, unless stated otherwise.
7. Diagrams are NOT necessarily drawn to scale.
8. Write neatly and legibly.

QUESTION 1

1.1 In the diagram below, ΔABC is drawn with $A(3\ ;\ 1)$, $B(-3\ ;\ -2)$ and $C(-7\ ;\ 6)$. CA is produced to intersect the x-axis at K. α and β are the angles of inclination of BC and CK respectively.



1.1.1 Calculate the gradient of AC. (2)

1.1.2 Calculate the coordinates of M, the midpoint of AC. (2)

1.1.3 Calculate the coordinates of K. (4)

1.1.4 Show that $AB \perp BC$. (3)

1.1.5 Calculate the area of ΔABC. Leave your answer in simplest surd form. (5)

1.1.6 Determine the equation of a line drawn parallel to AB and passing through C. (3)

1.1.7 Calculate the size of $B\hat{C}A$, correct to the nearest degree. (4)

1.1.8 Calculate the coordinate of D if ABCD, in that order, is a parallelogram (2)

1.2 Three straight lines PQ, ST and $x+3=0$ intersect each other at one point.
The equation of PQ is $\frac{1}{2}ky+\frac{3}{2}x+1=0$ and the equation of ST is $\frac{1}{2}y+\frac{1}{3}x-1=0$.
Calculate the value of k if $k \neq 0$. (5)

[30]

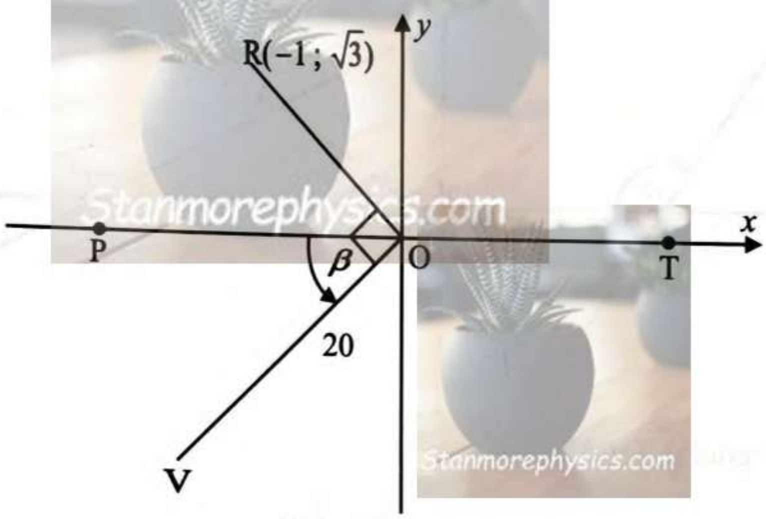
QUESTION 2

2.1 If $\sin 17° = m$, WITHOUT using a calculator, express the following in terms of m:

2.1.1 $\tan 17°$ (2)

2.1.2 $\sin(-107°)$ (3)

2.2 In the diagram below, $R(-1 ; \sqrt{3})$ is a point on the Cartesian plane.
V is a point such that $OV = 20$. P and T are points on the negative and positive x-axis respectively. $R\hat{O}V = 90°$ and $P\hat{O}V = \beta$.



2.2.1 Calculate the size of β, WITHOUT using a calculator. (3)

2.2.2 Show, WITHOUT using a calculator, that the coordinates of V are $(-10\sqrt{3} ; -10)$. (3)

[11]

QUESTION 3

3.1 Simplify the following to a single trigonometric ratio:

$$\frac{\tan(180°-x).\cos^2(180°+x)}{\cos(x+90°).\sin(x-360°)}$$ (6)

3.2 Simplify the following expression fully WITHOUT the use of a calculator:

$$\frac{\cos(-225°).\sin 135°+\sin 330°}{\tan 45°}$$ (5)

3.3 Prove the following identity:

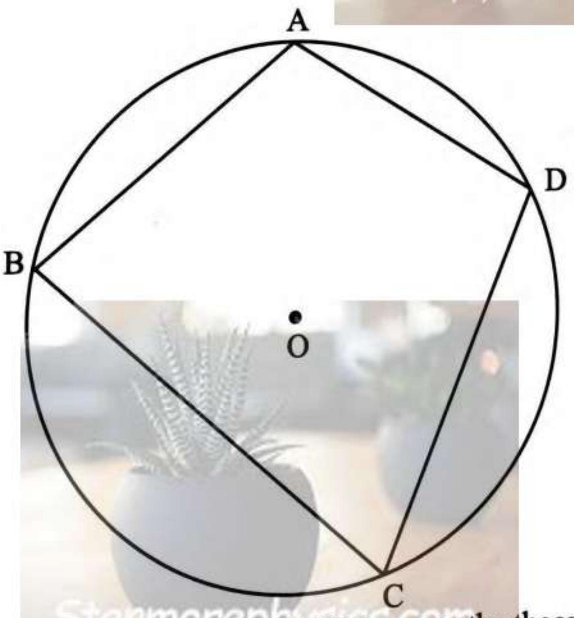
$$\frac{1}{\cos\theta}-\frac{\cos\theta}{1+\sin\theta}=\tan\theta$$ (4)

3.4 Determine the general solution to $\sin\left(x-30°\right)=\cos 2x$. (5)

[20]

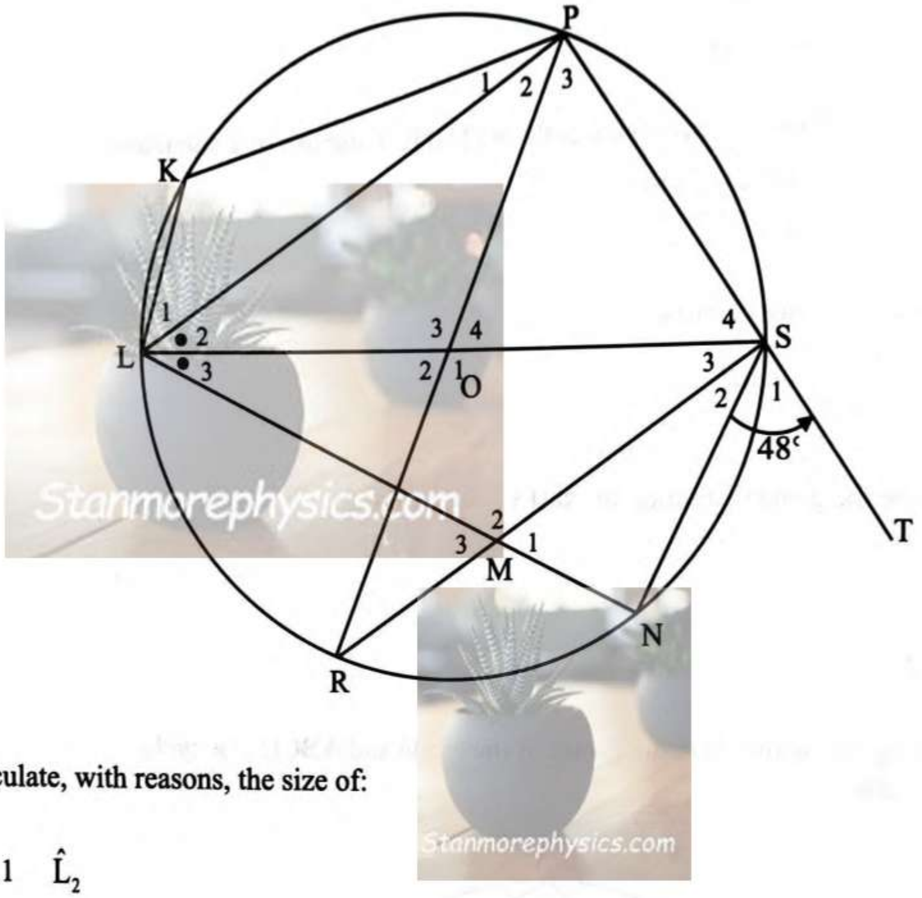
QUESTION 4

4.1 In the diagram below, O is the centre of the circle and ABCD is a cyclic quadrilateral.



Use the diagram in the ANSWER BOOK to prove the theorem that states that the opposite angles of a cyclic quadrilateral are supplementary, that is $\hat{A}+\hat{C}=180°$. (5)

4.2 In the diagram below, LS and PR are diameters of the circle with centre O. PS is produced to T. N is a point on the circle such that SL bisects $P\hat{L}N$. RS intersects LN at M. K is a point on the circle. PK, KL and SN are joined and $\hat{S}_1 = 48°$.



Calculate, with reasons, the size of:

4.2.1 $\hat{L}_2$ (3)

4.2.2 $\hat{S}_4$ (3)

4.2.3 $\hat{K}$ (2)

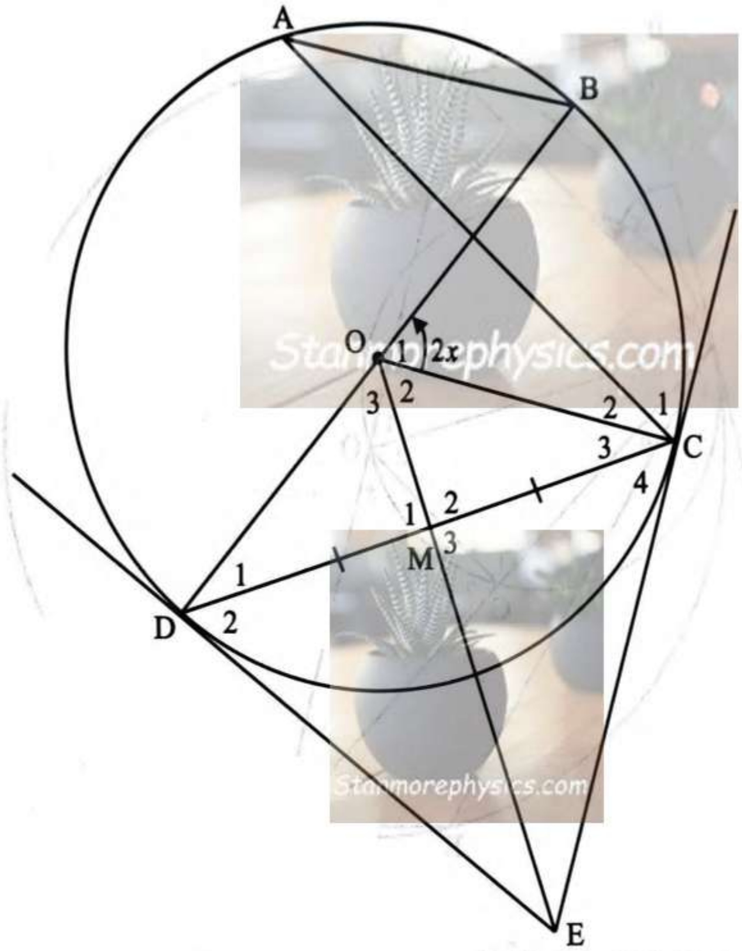
4.2.4 $\hat{R}$ (2)

4.2.5 $\hat{O}_3$ (2)

[17]

QUESTION 5

In the diagram below, O is the centre of the circle and CE and DE are tangents to the circle at C and D respectively. OE bisects CD in M. Let $\hat{O}_1 = 2x$.



5.1 Give a reason why $DE = CE$. (1)

5.2 Write, with reasons, THREE angles each equal to x. (4)

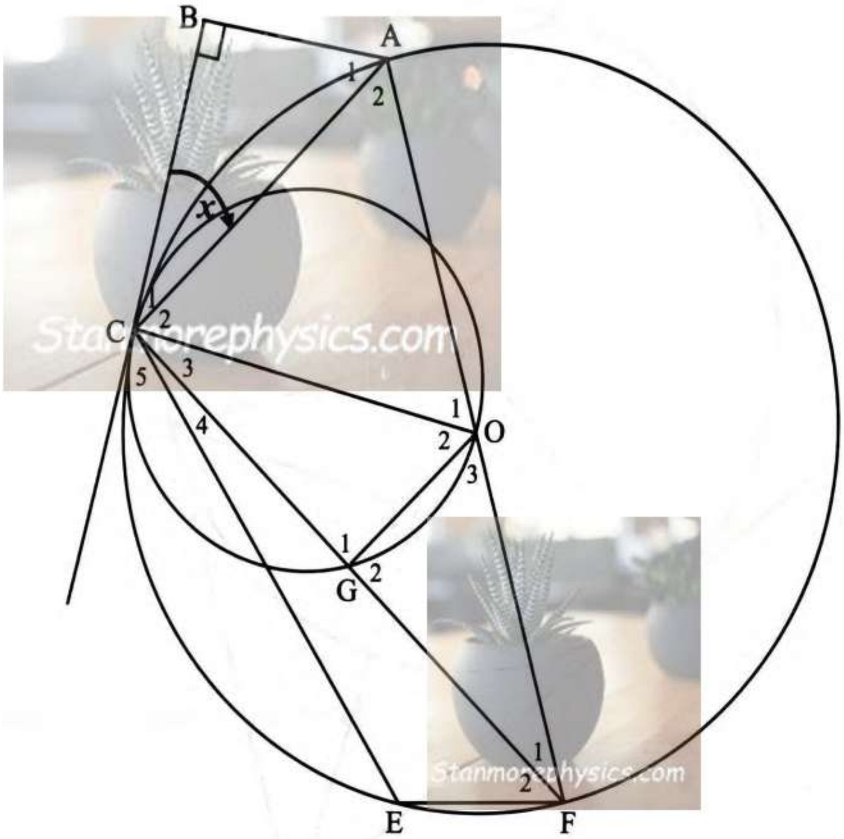
5.3 Prove that $\hat{O}_2 = 90° - x$. (2)

5.4 Prove that EC is a tangent to the circle passing through M, C and O. (3)

5.5 Prove that DOCE is a cyclic quadrilateral. (3)
[13]

QUESTION 6

In the diagram below, O is the centre of the larger circle ACEF. CO is the diameter of the smaller circle CGO. BC is a tangent to both circles at C. $AB \perp BC$. Let $B\hat{C}A = x$.



6.1 Prove that CA bisects $B\hat{A}O$. (4)

6.2 Prove that $G\hat{O}A = C\hat{E}F$. (5)

[9]

TOTAL MARKS: 100

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MATHEMATICS P2

JUNE 2026

SPECIAL ANSWER BOOK

Full Name & Surname	

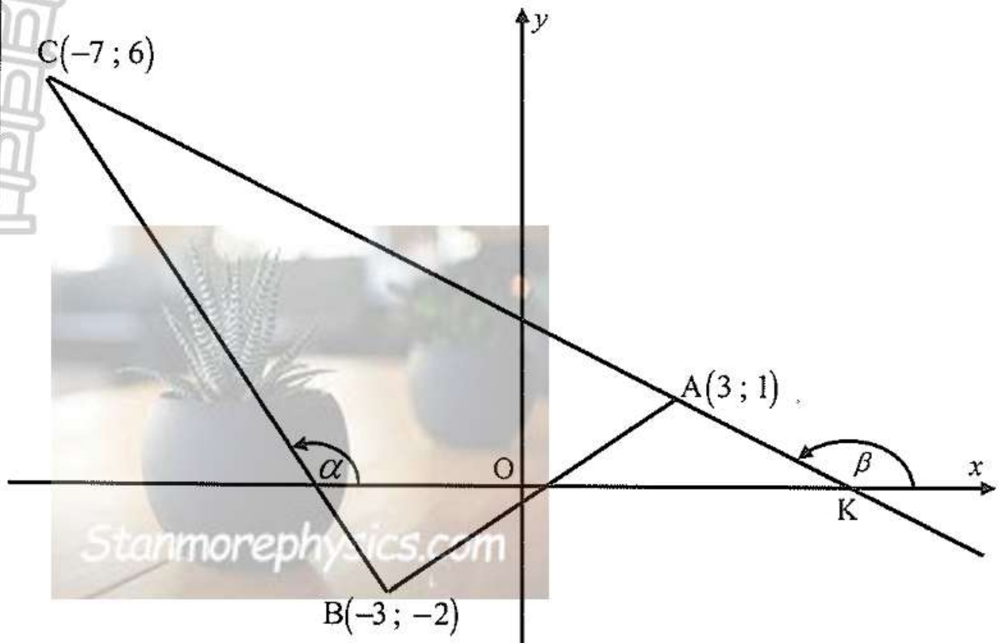
	For Educator / Moderators Use Only (NOT for learners to complete)					
QUESTION	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**
Total Per Question	**30**	**11**	**20**	**17**	**13**	**9**
Mark Scored (Teacher)						
Moderated Mark (Internal Moderator)						
Moderated Mark (External Moderator)						

GRAND TOTAL

100

This answer book consists of 12 pages.

QUESTION 1

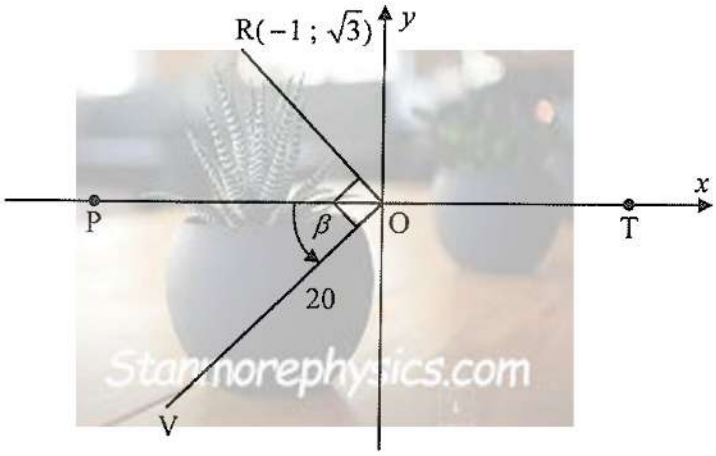
	Solution	Marks
1.1		
1.1.1		(2)
1.1.2		(2)
1.1.3		(4)

	Solution	Marks
1.1.4		(3)
1.1.5		(5)
1.1.6		(3)
1.1.7		(4)
1.1.8		(2)

	Solution	Marks
1.2		(5)
		[30]

QUESTION 2

	Solution	Marks
2.1.1		(2)
2.1.2		(3)

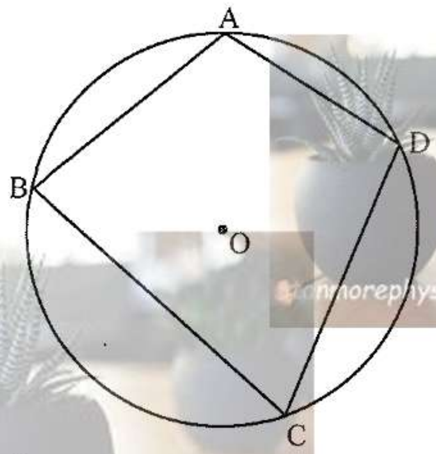
	Solution	Marks
2.2		
2.2.1		(3)
2.2.2		(3)
		[11]

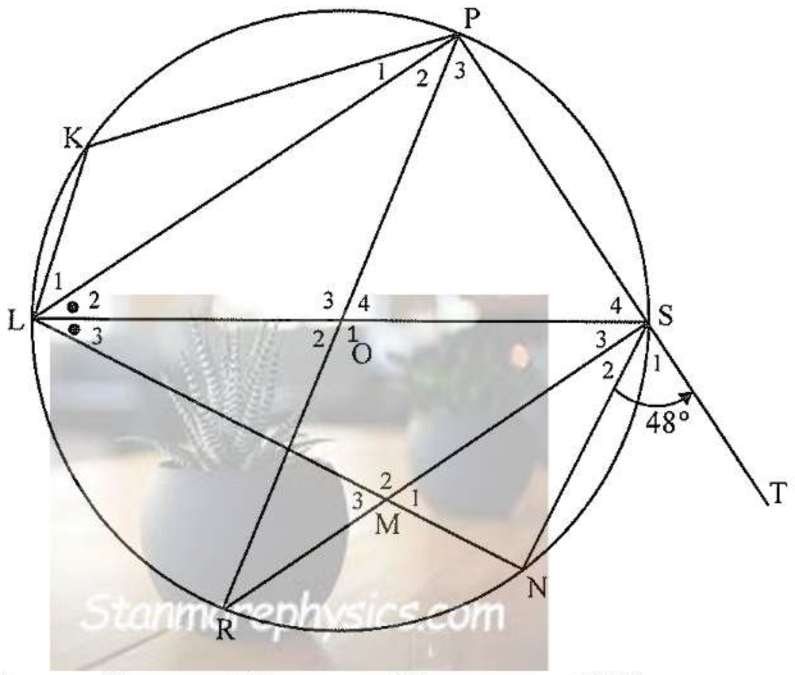
QUESTION 3

	Solution	Marks
3.1		(6)
3.2		(5)
3.3		(4)

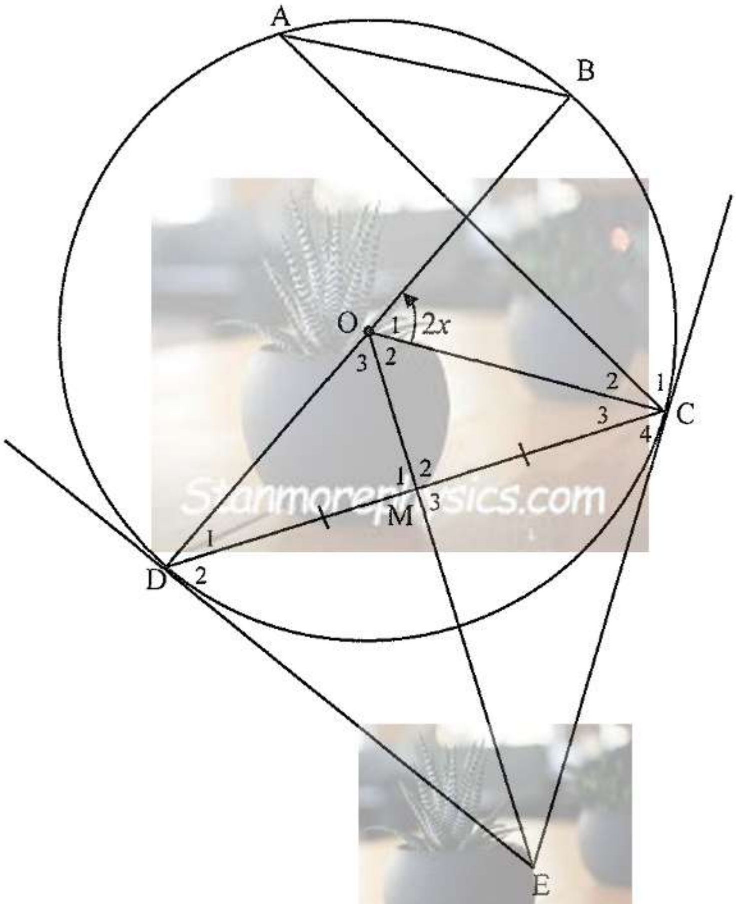
	Solution	Marks
3.4		
		(5)
		[20]

QUESTION 4

	Solution	Marks
4.1		
		(5)

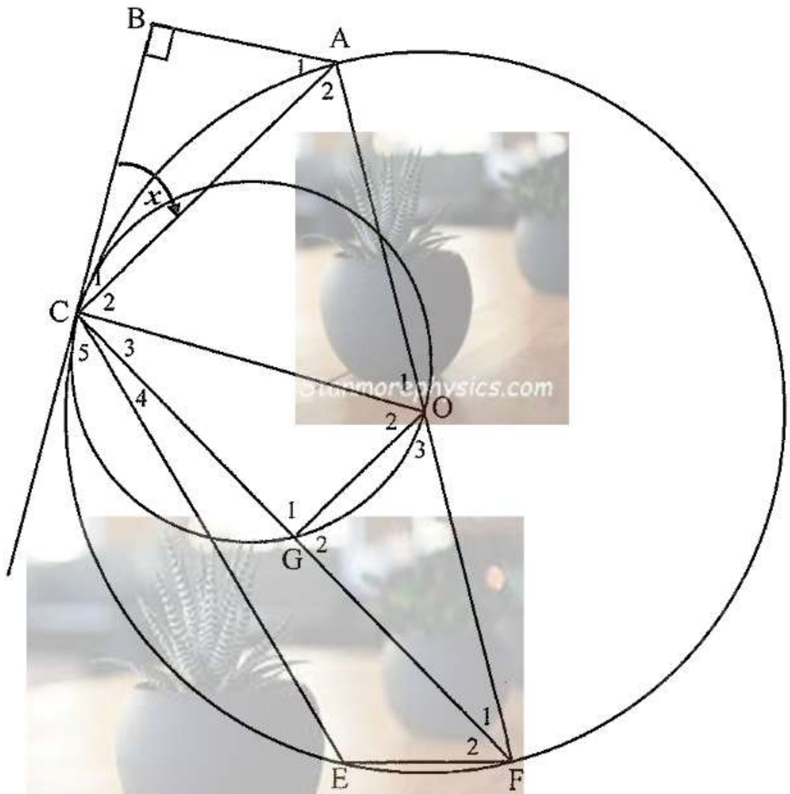
	Solution	Marks
4.2		
4.2.1		(3)
4.2.2		(3)
4.2.3		(2)
4.2.4		(2)
4.2.5		(2)
		[17]

QUESTION 5

	Solution	Marks
		
5.1		(1)
5.2		(4)
5.3		(2)

	Solution	Marks
5.4		(3)
5.5		(3)
		[13]

QUESTION 6

	Solution	Marks
		
6.1		(4)

	Solution	Marks
6.2		
		(5)
		[9]

TOTAL: 100 MARKS

	Additional space	

FINAL

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MARKING GUIDELINES

MARKS: 100

These marking guidelines consist of 11 pages.

NOTE:

- 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:

- *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

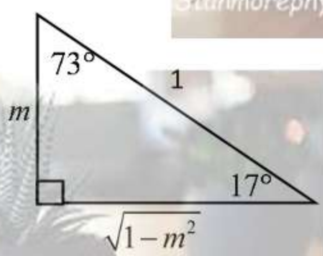
QUESTION 1

1.1.1	$m_{AC}=\frac{6-1}{-7-3}$ $=-\frac{1}{2}$	✓A substitution ✓CA answer (2)
1.1.2	$M\left(\frac{3-7}{2}\ ;\ \frac{1+6}{2}\right)$ $M\left(-\frac{4}{2}\ ;\ \frac{7}{2}\right)$ $M\left(-2\ ;\ \frac{7}{2}\right)$ **Answer only: full marks**	✓CA substitution ✓CA answer (2)
1.1.3	Equation of AC: $y-y_1=m(x-x_1)$ **OR** $y=mx+c$ $y-6=-\frac{1}{2}(x+7)$ **OR** $1=-\frac{1}{2}(3)+c$ $y-6=-\frac{1}{2}x-\frac{7}{2}$ **OR** $c=\frac{5}{2}$ $y=-\frac{1}{2}x+\frac{5}{2}$ **OR** $y=-\frac{1}{2}x+\frac{5}{2}$ at K: $-\frac{1}{2}x+\frac{5}{2}=0$ $\therefore -x+5=0$ $\therefore x=5$ $\therefore K(5\ ;0)$ **OR** $\frac{0-1}{x-3}=-\frac{1}{2}$ [collinear points $\therefore$ = gradients] $\frac{-1}{x-3}=\frac{-1}{2}$ $x-3=2$ $x=5$ $\therefore K(5\ ;0)$	✓A substitution of m_{AC} and $C(-7\ ;6)$ or $A(3\ ;1)$ ✓CA Equation of AC ✓CA let $y=0$ ✓CA x-value (CA if $x>0$) (4) **OR** ✓CA $y=0$ ✓CA $m_{AK}=\frac{-1}{x-3}$ ✓CA $m_{AK}=m_{AC}$ ✓ CA x-value (CA if $x>0$) (4)
1.1.4	$m_{AB}=\frac{3}{6}=\frac{1}{2}$ $m_{BC}=-\frac{8}{4}=-2$ $m_{AB}\times m_{BC}=\frac{1}{2}\times -2$ $=-1$ $\therefore AB\perp BC$	✓A $m_{AB}=\frac{3}{6}=\frac{1}{2}$ ✓ A $m_{BC}=-\frac{8}{4}=-2$ ✓A product of gradients = –1 (3)

1.1.5	$AB=\sqrt{(3+3)^2+(1+2)^2}$ $AB=3\sqrt{5}$ $BC=\sqrt{(-7+3)^2+(6+2)^2}$ $BC=\sqrt{80}$ $BC=4\sqrt{5}$ Area of $\Delta ABC=\frac{1}{2}\times 3\sqrt{5}\times 4\sqrt{5}$ $=30$ square units	✓A substitution into distance formula ✓A length of AB ✓A length of BC ✓CA subst. of AB & BC into area form. ✓CA answer (5)
1.1.6	$m=\frac{1}{2}$ and $C(-7\ ;6)$ [$\parallel$ lines $\therefore =$ gradients] $y-6=\frac{1}{2}(x+7)$ **OR** $6=\frac{1}{2}(-7)+c$ $y-6=\frac{1}{2}x+\frac{7}{2}$ **OR** $c=\frac{19}{2}$ $y=\frac{1}{2}x+\frac{19}{2}$ **OR** $y=\frac{1}{2}x+\frac{19}{2}$	✓CA new $m=m_{AB}$ ✓CA subst. of $C(-7\ ;6)$ into eqn. of line ✓CA answer (3)
1.1.7	$\tan\beta=-\frac{1}{2}$ $\beta=180-\tan^{-1}\left(\frac{1}{2}\right)$ $\beta=153,43°$ $\tan\alpha=-2$ $\alpha=180-\tan^{-1}(2)$ $\alpha=116,57°$ $B\hat{C}A=\beta-\alpha$ $=153,43°-116,57°$ $=36,86°$ $=37°$ [correct to the nearest degree]	✓CA $\tan\beta=m_{AC}$ ✓CA β ✓CA $\alpha=116,57°$ ✓CA answer (4)
1.1.8	$D(-1\ ;9)$	✓A x-value ✓A y-value (2)

1.2	$x+3=0$ $\therefore x=-3$ $\frac{1}{2}y+\frac{1}{3}(-3)-1=0$ $\frac{1}{2}y-1-1=0$ $\frac{1}{2}y=2$ $y=4$ $\frac{1}{2}ky+\frac{3}{2}x+1=0$ $\frac{1}{2}k(4)+\frac{3}{2}(-3)+1=0$ $2k=\frac{7}{2}$ $k=\frac{7}{4}$	✓A $x=-3$ ✓CA substitution of $x=-3$ ✓CA y-value ✓CA substitution of $y=4$ ✓CA answer (5)
		[30]

QUESTION 2

2.1.1	$\sin 17^\circ=\frac{m}{1}$ $x^2=r^2-y^2$ $=1-m^2$ $x=\sqrt{1-m^2}$ $\tan 17^\circ=\frac{m}{\sqrt{1-m^2}}$  	✓A third side ✓CA answer (2)
2.1.2	$\sin(-107^\circ)=-\sin 107^\circ$ $=-\sin 73^\circ$ **OR** $-\cos 17^\circ$ $=-\sqrt{1-m^2}$	✓A $-\sin 107^\circ$ ✓CA reduction (CA is on the negative) ✓CA answer (3)

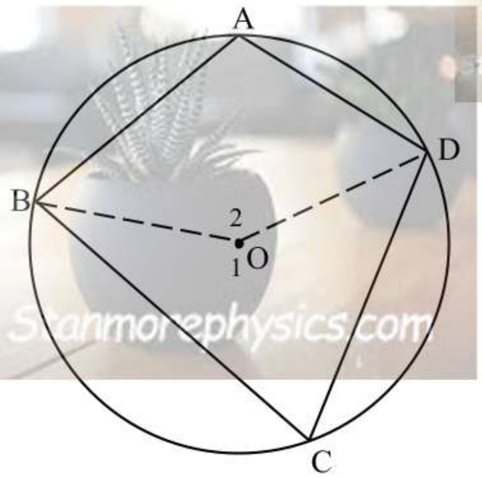
2.2.1	$\tan \hat{TOR} = -\sqrt{3}$ $\hat{TOR} = 180° - \tan^{-1}\left(\sqrt{3}\right)$ $\hat{TOR} = 120°$ $\therefore \hat{ROP} = 60°$ $\beta = 90° - 60°$ $\beta = 30°$	✓A $\tan \hat{TOR} = -\sqrt{3}$ ✓A $\hat{TOR} = 120°$ ✓A answer (3)
2.2.2	$\cos\left(\text{reflex } \hat{TOV}\right) = \frac{x}{20}$ and $\sin\left(\text{reflex } \hat{TOV}\right) = \frac{y}{20}$ $\cos 210° = \frac{x}{20}$ and $\sin 210° = \frac{y}{20}$ $x = 20 \times -\frac{\sqrt{3}}{2}$ and $y = 20 \times -\frac{1}{2}$ $x = -10\sqrt{3}$ and $y = -10$ $\therefore V\left(-10\sqrt{3}\ ;\ -10\right)$ **OR** $m_{OR} = -\sqrt{3}$ $\therefore m_{OV} = \frac{1}{\sqrt{3}}$ $\therefore$ Equation of OV: $y = \frac{1}{\sqrt{3}}x$ $\therefore V\left(x\ ;\ \frac{1}{\sqrt{3}}x\right)$ $(x-0)^2 + \left(\frac{1}{\sqrt{3}}x - 0\right)^2 = OV^2$ $x^2 + \frac{1}{3}x^2 = 20^2$ $\frac{4}{3}x^2 = 400$ $x^2 = 300$ $x = \pm\sqrt{300}$ $x = -10\sqrt{3}$ $y = \frac{1}{\sqrt{3}}\left(-10\sqrt{3}\right)$ $= -10$ $\therefore V\left(-10\sqrt{3}\ ;-10\right)$	✓A correct trig ratios ✓A substitution ✓A special angle values (3) **OR** ✓A equation of OV ✓A substitution ✓A simplification (3)
		[11]

QUESTION 3

3.1	$\dfrac{\tan(180°-x).\cos^2(180°+x)}{\cos(x+90°).\sin(x-360°)}=\dfrac{-\tan x.(-\cos x)^2}{(-\sin x).(+\sin x)}$ $=\dfrac{-\dfrac{\sin x}{\cos x}.\dfrac{\cos^2 x}{1}}{-\sin^2 x}$ $=\dfrac{\sin x.\cos x}{\sin^2 x}$ $=\dfrac{\cos x}{\sin x}$ $=\dfrac{1}{\tan x}$	✓A $\tan(180°-x)=-\tan x$ ✓A $\cos^2(180°+x)=(-\cos x)^2$ ✓A $\cos(x+90°)=-\sin x$ ✓A $\sin(x-360°)=\sin x$ A✓ $\tan x=\dfrac{\sin x}{\cos x}$ ✓CA answer (6)
3.2	$\dfrac{\cos(-225°).\sin 135°+\sin 330°}{\tan 45°}=\dfrac{\cos 225°.\sin 135°+\sin 330°}{\tan 45°}$ $=\dfrac{-\cos 45°.\sin 45°+(-\sin 30°)}{\tan 45°}$ $=\dfrac{-\dfrac{\sqrt{2}}{2}.\dfrac{\sqrt{2}}{2}-\dfrac{1}{2}}{1}$ $=-1$	A✓ $\cos(-225°)=-\cos 45°$ A✓ $\sin 135°=\sin 45°$ A✓ $\sin 330°=-\sin 30°$ A✓ substitution of special angle values ✓CA answer (5)
3.3	$\text{LHS}=\dfrac{1}{\cos\theta}-\dfrac{\cos\theta}{1+\sin\theta}$ $=\dfrac{1+\sin\theta-\cos^2\theta}{\cos\theta(1+\sin\theta)}$ $=\dfrac{\sin^2\theta+\sin\theta}{\cos\theta(1+\sin\theta)}$ $=\dfrac{\sin\theta(1+\sin\theta)}{\cos\theta(1+\sin\theta)}$ $=\tan\theta$ $=\text{RHS}$	✓A numerator ✓A LCD ✓A $1-\cos^2\theta=\sin^2\theta$ ✓A factorisation of numerator (4)

3.4	$\sin(x-30°)=\cos 2x$ $\sin(x-30°)=\sin(90°-2x)$ $x-30°=90-2x+k.360°$ or $x-30°=180°-(90°-2x)+k.360°$ $3x=120°+k.360°$ or $-x=120°+k.360°$ $x=40°+k.120°;k\in Z$ or $x=-120°+k.360°;k\in Z$	✓A $\cos 2x=\sin(90°-2x)$ ✓A both quadrants ✓CA value for x ✓CA value for x ✓CA $k.120°;\ k\in Z$ (5)
	OR $\sin(x-30°)=\cos 2x$ $\cos[90°-(x-30°)]=\cos 2x$ $\cos(120°-x)=\cos 2x$ $120°-x=2x+k.360°$ or $120-x=360°-2x+k.360°$ $-3x=-120°+k.360°$ or $x=240°+k.360°;k\in Z$ $x=40°+k.120°;\ k\in Z$	**OR** ✓A $\sin(x-30°)$ $=\cos[90°-(x-30°)]$ ✓A both quadrants ✓CA value for x ✓CA value for x ✓CA $k.120°;k\in Z$ (5)
		[20]

QUESTION 4

4.1	 RTP: $\hat{A}+\hat{C}=180°$ Construction: Draw OB and OD or Join O to B and O to D Proof: $\hat{O}_1=2\hat{A}$ [∠ @ centre = 2×∠ @ circum.] and $\hat{O}_2=2\hat{C}$ [∠ @ centre = 2×∠ @ circum.] but $\hat{O}_1+\hat{O}_2=360°$ [∠s around a point] $\therefore 2\hat{A}+2\hat{C}=360°$ $\therefore \hat{A}+\hat{C}=180°$	✓construction ✓S/ R ✓ S/R ✓S/R ✓ S (5)

4.2.1	$\hat{L}_2+\hat{L}_3=\hat{S}_1=48°$ $\hat{L}_2=24°$	[Exterior ∠ of a cyclic quad.]	✓ S ✓R ✓ answer (3)
4.2.2	$L\hat{P}S=90°$ $\hat{S}_4=90°-24°$ $=66°$	[angle in the semi-circle] [sum of angles of Δ]	✓S ✓R ✓ answer (3)
4.2.3	$\hat{K}=180°-\hat{S}_4$ $=180°-66°$ $=114°$	[opposite ∠s of a cyclic quad.]	✓R ✓ answer (2)
4.2.4	$\hat{R}=\hat{L}_2=24°$	[∠s in same segment]	✓S ✓R (2)
4.2.5	$\hat{O}_3=2\hat{S}_4=2(66°)$ $=132°$ **OR** $\hat{O}_3=180°-48°$ $=132°$	[∠ @ centre = 2×∠ @ circumf.] [sum of angles in a Δ]	✓R ✓ answer **OR** (2) ✓R ✓ answer (2)
			[17]

QUESTION 5

5.1	Two tangents drawn from the same point.		✓ answer (1)
5.2	$\hat{A}=\frac{1}{2}(2x)$ $=x$ $\hat{D}_1=\hat{A}=x$ $\hat{C}_3=\hat{D}_1=x$	[∠ @ centre = 2×∠ @ circum.] [∠s in the same segment] **OR** [∠ @ centre = 2×∠ @ circum.] [∠s opposite = sides] **OR** [exterior ∠ of Δ]	✓S ✓R ✓S/R ✓S/R (4)
5.3	$\hat{M}_2=90°$ $\hat{C}_3=x$ $\therefore \hat{O}_2=90°-x$	[line from centre to midpoint of chord] [proved in 5.2] [sum of ∠s in a Δ]	✓S ✓R (2)
5.4	$\therefore \hat{O}_2=90°-x$ $O\hat{C}E=90°$ $\hat{C}_3=x$ $\therefore \hat{C}_4=\hat{O}_2=90°-x$ ∴ EC is a tangent	[proved in 5.3] [rad ⊥ tan] [proved in 5.1] [converse tan chord theorem]	 ✓S/R ✓S ✓ R (3)

5.5	$\hat{M}_3 = 90°$	[line from centre to midpoint of chord]	✓S/R
	$\hat{C}_4 = 90° - x$	[proved in 5.4]	
	$\therefore M\hat{E}C = x$		
	but $\hat{D}_1 = x$	[proved in 5.2]	✓S
	$\therefore \hat{D}_1 = M\hat{E}C = x$		
	$\therefore$ DOCE is a cyclic quadrilateral	[converse ∠s in the same segment]	✓R
			(3)
	OR		**OR**
	$O\hat{D}E = 90°$	[rad ⊥ tan]	✓S/R
	$O\hat{D}E + O\hat{C}E = 180°$		✓S
	$\therefore$ DOCE is a cyclic quadrilateral	[converse opposite ∠s of a cyclic quad]	✓R
			(3)
			[13]

QUESTION 6

6.1	$\hat{A}_1 = 90° - x$	[sum of ∠s of a Δ]	✓S/R
	$A\hat{C}F = 90°$	[∠ in the semi-circle]	✓S/R
	$\hat{C}_1 = \hat{F}_1 = x$	[tan chord theorem]	✓S/R
	$\therefore \hat{A}_2 = 90° - x$	[sum of ∠s of a Δ]	
	$\therefore \hat{A}_1 = \hat{A}_2$		✓S
	$\therefore$ CA bisects $B\hat{A}O$		(4)
6.2	$C\hat{E}F = 180° - \hat{A}_2$	[opposite ∠s of a cyclic quad.]	✓S/R
	$= 180° - (90° - x)$		
	$= 180° - 90° + x$		
	$= 90° + x$		✓size of $C\hat{E}F$
	$\hat{O}_1 = 2\hat{F}_1 = 2x$	[∠ @ centre = 2×∠ @ circum.]	✓S/R
	$\hat{C}_3 = \hat{F}_1 = x$	[∠s opposite = sides/radii]	✓S/R
	$\hat{G}_1 = 90°$	[∠ in the semi-circle]	
	$\therefore \hat{O}_2 = 90° - x$	[sum of ∠s of a Δ]	
	$G\hat{O}A = \hat{O}_1 + \hat{O}_2$		
	$= 2x + 90° - x$		
	$= 90° + x$		✓size of $G\hat{O}A$
	$\therefore C\hat{E}F = G\hat{O}A$		(5)
	OR		**OR**

	$\hat{CEF} = 180° - \hat{A}_2$	[opposite ∠s of a cyclic quad.]	✓S/R
	$= 180° - (90° - x)$		
	$= 180° - 90° + x$		
	$= 90° + x$		✓size of $\hat{CEF}$
	$\hat{G}_1 = 90°$	[∠ in the semi-circle]	✓S/R
	$\hat{G}_2 = 90°$	[adj. ∠s on a straight line]	✓S/R
	$\hat{C}_1 = \hat{F}_1 = x$	[proved in 6.1]	
	$\therefore G\hat{O}A = 90° + x$	[exterior ∠ of Δ]	✓size of $G\hat{O}A$
	$\therefore \hat{CEF} = G\hat{O}A$		
			(5)
			[9]

TOTAL: 100 MARKS