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NATIONAL SENIOR CERTIFICATE

GRADE/IBANGA 12

SEPTEMBER 2024

MATHEMATICS P2/IMATHEMATIKA P2 MARKING GUIDELINE/ISIKHOKELO SOKUMAKISHA

MARKS/AMANQ 150
AKU:

This marking guideline consists of 17 pages.
*Esi sikhokelo sokumakisha sinamaphepha
ayi 17.*



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NOTE:

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

GEOMETRY	
S	A mark for a correct statement (A statement mark is independent of a reason)
R	A mark for the correct reason. (A reason mark may only be awarded only if the statement is correct)
S/R	Award a mark if a statement AND a reason are both correct

QAPHELA:

- *Xa umviwa ephendule umbuzo KABINI makisha kuphela ilinge LOKUQALA.*
- *Xa umviwa elihlabilie ilinge lombuzo akawuphinda umbuzo, makisha okuhlatyiweyo.*
- *Iconsistency accuracy yenzeka kuzo ZONKE iinkalo zesikhokelo sokumakisha. Yeka ukumakisha kwimpazamo yesibini yekhalityhuleyishini.*
- *Ukcingela iimpendulo/iiveliyu ukusombulula ingxaki AKWAMKELEKANGA.*

IJIYOMETRI	
S	<i>Inqaku ngesitheyithimenti esichanekileyo (Inqaku lesitheyithimenti lahlukile kwelesizathu)</i>
R	<i>Inqaku lesizathu esichanekileyo (Inqaku lesizathu linikwa kuphela xa isitheyithimenti sichanekile)</i>
S/R	<i>Nika inqaku ukuba isiteyithimenti NESizathu ziyaafana</i>



QUESTION 1/UMBUZO 1

1.1	82 64 55 50 41 71 78 88 98 96 63 66 80 84 88		
1.1.1	88	✓ answer / impendulo	(1)
1.1.2	Range / Omvang = $98 - 41 = 57$	✓ answer / impendulo	(1)
1.1.3	$\bar{x} = \frac{1104}{15}$ $= 73,60$	✓ 1104 ✓ answer / impendulo	(2)
1.1.4	$\sigma = 16,30$	✓ answer / impendulo	(1)
1.1.5	$\bar{x} - \sigma = 73,60 - 16,30$ $= 57,30$ ∴ There were 3 truck drivers. <i>Daar was 3 trokbestuurders</i>	✓ 73,60 - 16,30 ✓ 57,30 ✓ answer / impendulo	(3)
1.2	let total mass of 8 people be x : <i>laat die totale massa van 8 mense x wees :</i> number of people to be added be k : <i>aantal mense wat by moet kom k wees :</i> $\frac{x}{8} = 75$ $x = 600$ $75k + 600 = 1000$ $\therefore k = \frac{1000 - 600}{75}$ $k = 5,333$ It will be approximately equal to 5 people <i>Iqikeleka ukulingana nabantu abayi 5</i>	✓ $\frac{x}{8} = 75$ ✓ mass of 8 people (600) <i>Ubunzima babantu abayi 8 (600)</i> ✓ equation / i-ikhweyizhini ($75k + 600 = 1000$) ✓ answer / impendulo	(4)
			[12]



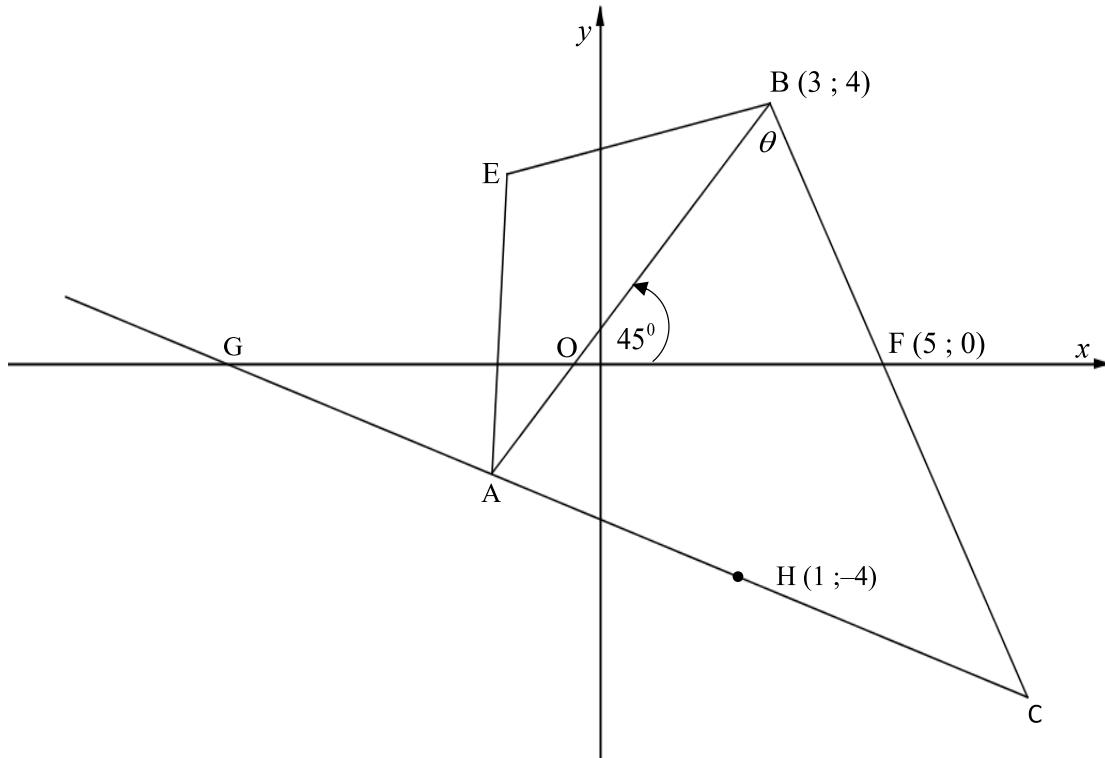
QUESTION 2/UMBUZO 2

TEST A / UVAVANYO A	39	33	35	44	37	40	24	31	30	5
TEST B / UVAVANYO B	41	45	48	40	47	42	37	44	43	24

2.1	(44 ; 40)	✓ 44 in TEST A / kuVAVANYO A	(1)
2.2	$a = 25,48$ $b = 0,49$ $y = 25,48 + 0,49x$	✓ $a = 25,48$ ✓ $b = 0,49$ ✓ $y = 25,48 + 0,49x$	(3)
2.3	$y = 25,48 + 0,49(14)$ = 32	✓ correct substitution / <i>Isaphusitityhushini echanekileyo</i> ✓ answer / <i>impendulo</i>	(2)
2.4	$r = 0,79$ Strong positive correlation <i>Correlation esitongo ephozithivu</i>	✓ $r = 0,79$ ✓ comment / <i>ukuphawula (phawula)</i>	(2)
			[8]



QUESTION 3/UMBUZO 3

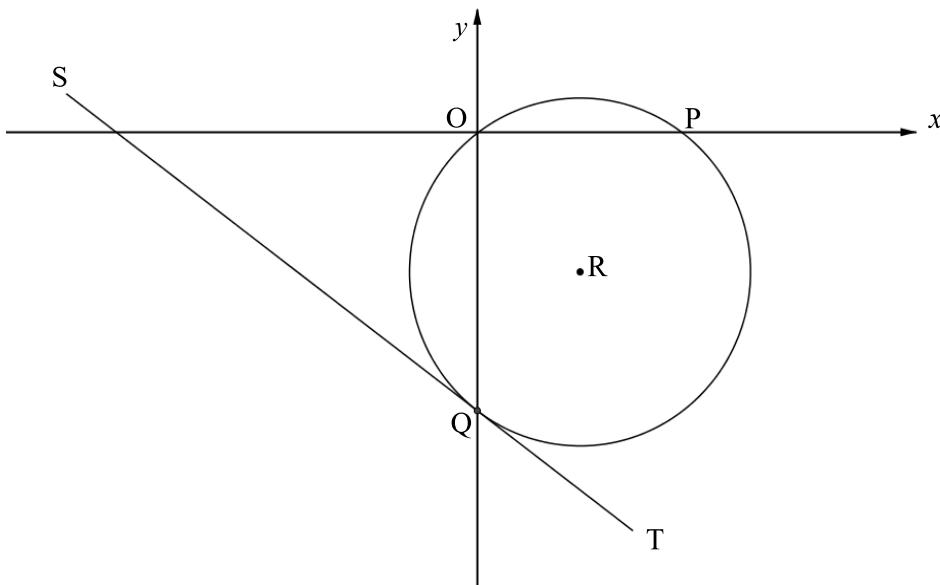


3.1	$BF = \sqrt{(3-5)^2 + (4-0)^2}$ $= \sqrt{20}$	✓ correct substitution <i>Isaphusitityhushini echanekileyo</i> ✓ answer / <i>impendulo</i>	(2)
3.2	$m_{BF} = \frac{4-0}{3-5}$ $= -2$	✓ correct substitution <i>Isaphusitityhushini echanekileyo</i> ✓ answer / <i>impendulo</i>	(2)
3.3	$\tan \alpha = -2$ $\alpha = 116,57^\circ$ $\theta = 116,57^\circ - 45^\circ = 71,57^\circ$ [ext \angle of a Δ]	✓ $\tan \alpha = m_{BF} = -2$ ✓ $\alpha = 116,57^\circ$ ✓ $\theta = 71,57^\circ$	(3)
3.4	$\tan 45^\circ = m_{AB} = 1$ $m_{HF} = \frac{1-5}{-4-0}$ $= 1$ $\therefore HF \parallel AB$ [$m_{AB} = m_{HF} = 1$]	✓ $m_{AB} = 1$ ✓ correct substitution <i>Isaphusitityhushini echanekileyo</i> ✓ $m_{HF} = 1$ ✓ Reason / <i>Isizathu</i> [$m_{AB} = m_{HF}$]	(4)



3.5	Kite / iKhayithi	✓ answer / impendulo	(1)
3.6	$\frac{HC}{AH} = \frac{FC}{BF}$ [line/lyn to one side of a Δ / aan een sy van Δ] $\frac{2}{1} = \frac{FC}{2\sqrt{5}}$ $FC = 4\sqrt{5}$ $BC = 4\sqrt{5} + 2\sqrt{2} = 6\sqrt{5}$ $AC = 6\sqrt{5}$ [adj.sides of a kite / aangr. sye van vlieer]	✓ correct ratio / Iratio echanekileyo ✓ correct substitution Isaphusitityhushini echanekileyo ✓ FC ✓ AC = BC	(4)
3.7	$\hat{B} = \hat{A} = 71,57^\circ$ [\angle s opp=sides / \angle e teenoor=sye] $\therefore \hat{C} = 36,87^\circ$ Area of/van AOFC = Area of/van ΔABC – Area of/van ΔOBF $= \frac{1}{2} \times 6\sqrt{5} \times 6\sqrt{5} \times \sin 36,87^\circ - 12$ $= 41,99$	✓ $\hat{C} = 36,87^\circ$ ✓ Area of/ka ΔABC ✓ answer / impendulo	(3)
			[19]

QUESTION 4/UMBUZO 4



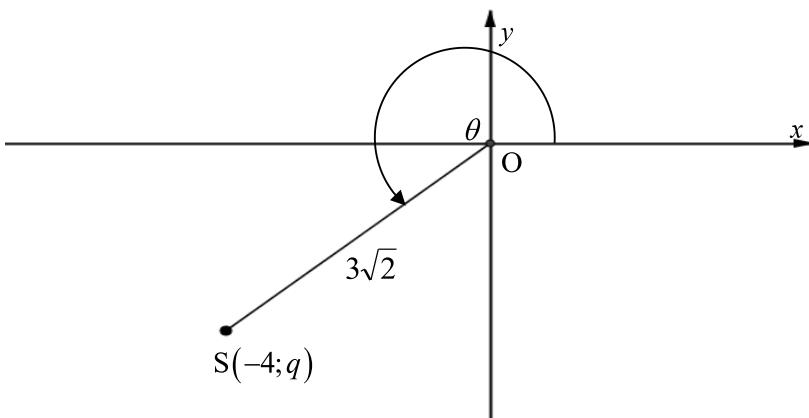
4.1.1	$y = -\frac{3}{4}(0) - 8$ $= -8$ $Q(0; -8)$	✓ $x = 0$ ✓ y - coordinate / y kho-odineyithi	(2)
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4.1.2	$m_{QR} = \frac{4}{3}$ [tan \perp rad / raakl \perp rad] $y + 8 = \frac{4}{3}(x - 0)$ $y = \frac{4}{3}x - 8$	✓ m_{QR} ✓ substituting m_{QR} and $Q(0 ; -8)$ ukusaphusitityhutha m_{QR} kunye no $Q(0 ; -8)$ ✓ equation / i-ikhweyizhini	(3)
4.1.3	$\frac{4}{3}x - 8 = 0$ $x = 6$ $P(6;0)$	✓ $y = 0$ ✓ $x = 6$	(2)
4.1.4	$x_R = \frac{0+6}{2}; y_R = \frac{-8+0}{2}$ $x_R = 3 ; y_R = -4$	✓ correct substitution Ukusaphusitityhutha okuchanekileyo ✓ $x_R = 3$ ✓ $y_R = -4$	(3)
4.1.5	$r^2 = (0-3)^2 + (-8+4)^2$ $= 25$ $(x-3)^2 + (y+4)^2 = 25$	✓ correct substitution Ukusaphusitityhutha okuchanekileyo ✓ $r^2 = 25$ ✓ equation / i-ikhweyizhini	(3)
4.1.6	$k = -4 + 5$ or / of $k = -4 - 5$ $k = 1$ or / of $k = -9$	✓ method / imethodi ✓ $k = 1$ ✓ $k = -9$	(3)
4.2	$(x - \sin \theta)^2 + (y + 2 \sin \theta)^2 = -2 + \sin^2 \theta + 4 \sin^2 \theta$ $r^2 = -2 + 5 \sin^2 \theta$ For any value of θ maximum of $\sin^2 \theta = 1$ Vir enige waarde van θ is maksimum van $\sin^2 \theta = 1$ $\therefore r = \sqrt{-2 + 5(1)}$ $= \sqrt{3}$	✓ $(x - \sin \theta)^2 + (y + 2 \sin \theta)^2$ ✓ $r^2 = -2 + 5 \sin^2 \theta$ ✓ maximum of $\sin^2 \theta = 1$ imaximum ka $\sin^2 \theta = 1$ ✓ $r = \sqrt{-2 + 5(1)}$ ✓ answer / impendulo	(5)
			[21]



QUESTION 5/UMBUZO 5

5.1



5.1.1	$\begin{aligned} q &= -\sqrt{(3\sqrt{2})^2 - (-4)^2} \quad \text{Pyth} \\ &= -\sqrt{2} \end{aligned}$	✓ correct substitution <i>Ukusaphusityhutha okuchanekileyo</i> ✓ answer / <i>impendulo</i>	(2)
5.1.2	$\begin{aligned} \sin(\theta + 45^\circ) &= \sin \theta \cos 45^\circ + \cos \theta \sin 45^\circ \\ &= \frac{-\sqrt{2}}{3\sqrt{2}} \cdot \frac{\sqrt{2}}{2} + \left(\frac{-4}{3\sqrt{2}} \right) \cdot \frac{\sqrt{2}}{2} \\ &= \frac{-1-2\sqrt{2}}{3\sqrt{2}} \end{aligned}$	✓ expansion / <i>ukuexpanda</i> ✓ ratios of / <i>iiratio zika sin \theta \& cos \theta</i> ✓ special angles / <i>iispecial engile</i> ✓ answer / <i>impendulo</i>	(4)
5.1.3	$\begin{aligned} \cos(2\theta - 360^\circ) &= \cos 2\theta \\ &= 2\cos^2 \theta - 1 \\ &= 2\left(\frac{-4}{3\sqrt{2}}\right)^2 - 1 \\ &= \frac{7}{9} \end{aligned}$	✓ $\cos 2\theta$ ✓ identity / <i>iayidentithi</i> ✓ ratio of / <i>verhouding van cos \theta</i> ✓ answer / <i>impendulo</i>	(4)
5.2	$\begin{aligned} &\frac{\sin(90^\circ - \theta) \cdot \cos 480^\circ + \cos(180^\circ - \theta) \cdot \tan 45^\circ}{\cos \theta \cdot \sin 390^\circ - \tan 180^\circ} \\ &= \frac{\cos \theta \cdot (-\cos 60^\circ) + (-\cos \theta) (\tan 45^\circ)}{\cos \theta (\sin 30^\circ) - \tan 180^\circ} \\ &= \frac{-\frac{1}{2} \cos \theta - \cos \theta (1)}{\cos \theta \left(\frac{1}{2}\right) - 0} \\ &= \frac{-\frac{3}{2} \cos \theta}{\frac{1}{2} \cos \theta} \\ &= -3 \end{aligned}$	✓ $\cos \theta$ ✓ $-\cos 60^\circ$ ✓ $\sin 30^\circ$ ✓ special angles / <i>iispecial engile</i> ✓ answer / <i>impendulo</i>	(5)



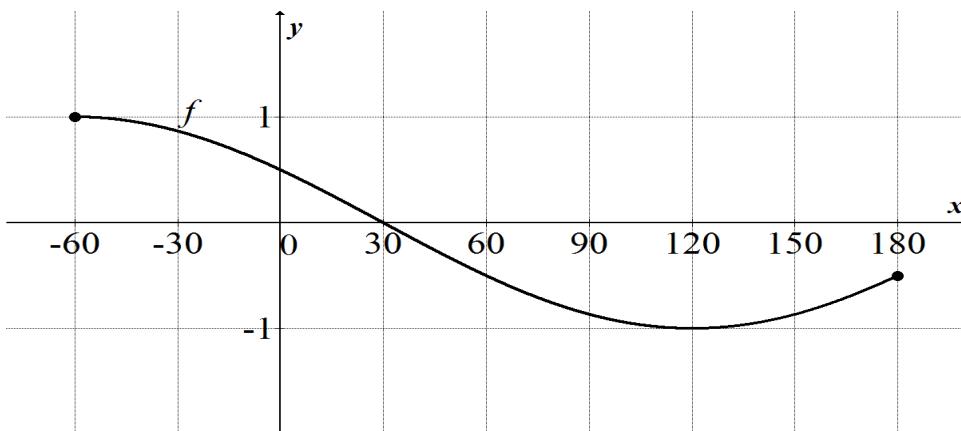
<p>5.3</p> $ \begin{aligned} \text{LHS} / LK &= \frac{\cos x}{\sin 2x} - \frac{\cos 2x}{2 \sin x} \\ &= \frac{2 \sin x \cos x - \cos 2x \sin 2x}{2 \sin 2x \sin x} \\ &= \frac{\sin 2x - \cos 2x \sin 2x}{2 \sin 2x \sin x} \\ &= \frac{\sin 2x(1 - \cos 2x)}{2 \sin 2x \sin x} \\ &= \frac{1 - (1 - 2 \sin^2 x)}{2 \sin x} \\ &= \frac{2 \sin^2 x}{2 \sin x} \\ &= \sin x \end{aligned} $	<ul style="list-style-type: none"> ✓ simplification / <i>ukusimplifaya</i> ✓ $\sin 2x$ ✓ common factor / <i>Ikhomoni fekhitha</i> ✓ identity / <i>iayidentithi</i> $1 - 2 \sin^2 x$ ✓ $\frac{2 \sin^2 x}{\sin x}$ 	(5)
<p>5.4.1</p> $ \begin{aligned} \frac{\cos 60^\circ}{\sin x} - \frac{\sin 60^\circ}{\cos x} &= 2 \\ \frac{\cos 60^\circ \cos x - \sin 60^\circ \sin x}{\sin x \cos x} &= 2 \\ \cos(x + 60^\circ) &= 2 \sin x \cos x \\ \cos(x + 60^\circ) &= \sin 2x \\ \cos(x + 60^\circ) &= \cos(90^\circ - x) \end{aligned} $	<ul style="list-style-type: none"> ✓ simplification / <i>ukusimplifaya</i> ✓ $\cos(x + 60^\circ)$ ✓ $\sin 2x$ 	(3)
<p>5.4.2</p> $ \begin{aligned} \cos(x + 60^\circ) &= \cos(90^\circ - 2x) \\ x + 60^\circ &= \pm(90^\circ - 2x) + 360^\circ \cdot k \\ x + 60^\circ &= 90^\circ - 2x + 360^\circ \cdot k \quad \text{or / of } x + 60^\circ = -90^\circ + 2x + 360^\circ \cdot k \\ 3x &= 30^\circ + 360^\circ \cdot k \quad \text{or / of } -x = -120^\circ + 360^\circ \cdot k \\ x &= 10^\circ + 120^\circ \cdot k \quad \text{or / of } x = 120^\circ - 360^\circ \cdot k, k \in \mathbb{Z} \\ \textbf{OR / OF} \\ x + 60^\circ &= 90^\circ - 2x + 360^\circ \cdot k \quad \text{or / of } x + 60^\circ = 360^\circ - 90^\circ + 2x + 360^\circ \cdot k \\ 3x &= 30^\circ + 360^\circ \cdot k \quad \text{or / of } -x = 240^\circ + 360^\circ \cdot k \\ x &= 10^\circ + 120^\circ \cdot k \quad \text{or / of } x = -240^\circ - 360^\circ \cdot k, k \in \mathbb{Z} \end{aligned} $	<ul style="list-style-type: none"> ✓ $x + 60^\circ = 90^\circ - 2x$ ✓ $3x = 30^\circ + 360^\circ \cdot k$ ✓ $-x = -120^\circ + 360^\circ \cdot k$ ✓ $x = 10^\circ + 120^\circ \cdot k$ ✓ $x = 120^\circ - 360^\circ \cdot k$ ✓ $360^\circ \cdot k, k \in \mathbb{Z}$ 	(4)



<p>5.5 $y = \sqrt{c^2 - a^2}$ Pyth Theorem / Stelling</p> <p>$\frac{\sqrt{2}}{2} = \sin 45^\circ$</p> $\begin{aligned} &= 2 \sin 22,5^\circ \cos 22,5^\circ \\ &= 2 \cdot \frac{\sqrt{c^2 - a^2}}{c} \cdot \frac{a}{c} \\ &= 2 \cdot \frac{\sqrt{a^2 + b^2 - a^2}}{c} \cdot \frac{a}{c} \\ &= \frac{2ab}{c^2} \end{aligned}$	<p>✓ $y = \sqrt{c^2 - a^2}$ Pyth Theorem / Stelling</p> <p>OR/OKANYE correct diagram Idayagram echanekileyo</p> <p>✓ $\sin 45^\circ$</p> <p>✓ $2 \sin 22,5^\circ \cdot \cos 22,5^\circ$</p> <p>✓ substitution / isaphusitityhushini</p> <p>✓ c^2 i.t.o./ i.t.v a^2 & b^2</p>	<p>(5)</p>
		[32]



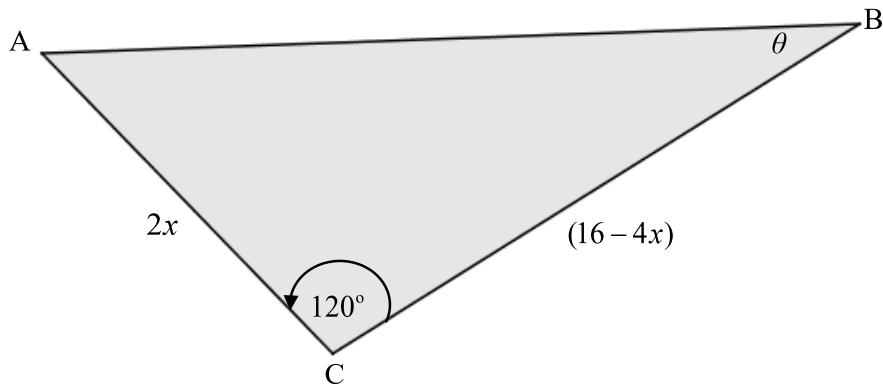
QUESTION 6/UMBUZO 6



6.1	Period / iPhiriyodi ngu 360°	✓ answer / impendulo	(1)
6.2	Min value / Min veliyu = -1	✓ answer / impendulo	(1)
6.3	$-1 \leq y \leq 1$ $-1+1 \leq y \leq 1+1$ $0 \leq y \leq 2$	✓ correct critical values/ <i>Iikhrithikhali veliyu ezichanekileyo</i> ✓ correct notation / <i>inoteyishini echanekileyo</i>	(2)
6.4	$120^\circ < x < 180^\circ$	✓ correct critical values <i>Iikhrithikhali veliyu ezichanekileyo</i> ✓ correct notation / <i>inoteyishini echanekileyo</i>	(2)
6.5	$\begin{aligned} g(x) &= -\sin(x - 30^\circ - 60^\circ) \\ &= -\sin(x - 90^\circ) \\ &= -\cos x \end{aligned}$	✓ $-(-\sin x - 30^\circ - 60^\circ)$ ✓ $\sin(x - 90^\circ)$ ✓ $-\cos x$	(3)
6.6		✓ intercepts with the axes/ <i>ii-intasephuthi nee-axes</i> ✓ turning points / <i>iitheningi poyinti</i> ✓ shape / <i>isheyiphu</i>	(3)
			[12]



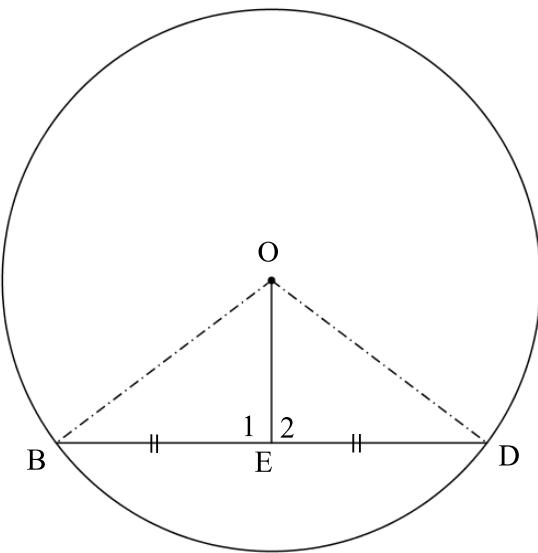
QUESTION 7 / UMBUZO 7



7.1	$\begin{aligned} A \text{ of } \Delta ABC &= \frac{1}{2} \times 2x \times (16 - 4x) \times \sin 120^\circ \\ &= (16x - 4x^2) \times \sin 60^\circ \\ &= 8\sqrt{3}x - 2\sqrt{3}x^2 \end{aligned}$	✓ correct substitution / <i>Ukusaphusityhutha okuchanekileyo</i> ✓ $\sin 60^\circ$ ✓ answer / <i>impendulo</i>	(3)
7.2	$\begin{aligned} A' &= 0 \\ 8\sqrt{3} - 4\sqrt{3}x &= 0 \\ x &= 2 \end{aligned}$	✓ derivative / <i>iderivative = 0</i> ✓ $8\sqrt{3} - 4\sqrt{3}x$ ✓ answer / <i>impendulo</i>	(3)
			[6]



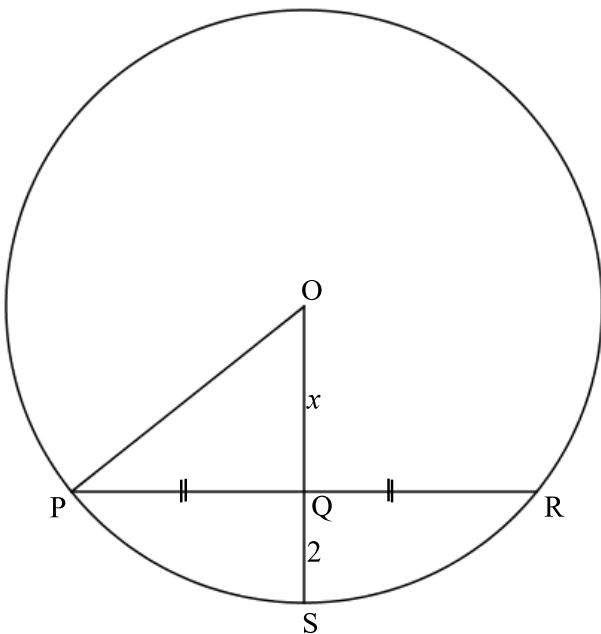
QUESTION 8/UMBUZO 8



8.1	<p>Construction: Draw DO and OB</p> <p>Proof: In $\triangle ODE$ and $\triangle OEB$</p> $DE = EB \quad [\text{given}]$ $OD = OB \quad [\text{radii}]$ $OE = OE \quad [\text{common}]$ $\therefore \triangle ODE \cong \triangle OEB \quad [\text{SSS}]$ $\hat{E}_1 + \hat{E}_2 = 180^\circ \quad [\angle \text{s on str line}]$ $\therefore \hat{E}_1 = \hat{E}_2 = 90^\circ \quad [\triangle ODE \cong \triangle OEB]$ <i>Ikhonsitrakhishini: Zoba uDO noOB iPrufu: ku$\triangle ODE$ naku$\triangle OEB$</i> $DE = EB \quad [\text{gegee}]$ $OD = OB \quad [\text{radiusse}]$ $OE = OE \quad [\text{gemeen}]$ $\therefore \triangle ODE \cong \triangle OEB \quad [\text{SSS}]$ $\hat{E}_1 + \hat{E}_2 = 180^\circ \quad [\angle \text{eop reguitlyn}]$ $\therefore \hat{E}_1 = \hat{E}_2 = 90^\circ \quad [\triangle ODE \cong \triangle OEB]$	✓ construction ✓ first statement (radii) ✓ other 2 statements ✓ reason for congruency ✓ R ✓ <i>ikhonsitrakhishini</i> ✓ <i>isiteyithimenti sokuqala (iirediyasi)</i> ✓ <i>ezinye iziteyithimenti eziyi2</i> ✓ <i>izizathu zecongruecy</i> ✓ R	(5)
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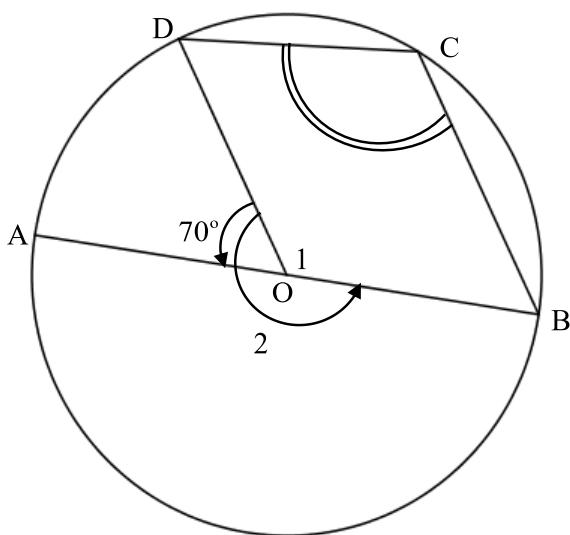
8.2



8.2.1	$O\hat{Q}P = 90^\circ$ [line from centre to the midpoint] [ilayini ukusuka embindini ukuya kwimidipoyinti]	<input checked="" type="checkbox"/> S <input checked="" type="checkbox"/> R	(2)
8.2.2	$PQ = 4$ $OP^2 = PQ^2 + OQ^2$ [Pyth] $(x+2)^2 = 4^2 + x^2$ $x^2 + 4x + 4 = 16 + x^2$ $4x = 12$ $x = 3$ $OP = OS = 5$ [radii / radiusse]	<input checked="" type="checkbox"/> PQ <input checked="" type="checkbox"/> substitution into Pythagoras/ Ukusaphusitityhutha kwiPythagoras <input checked="" type="checkbox"/> simplification / ukusimplifaya <input checked="" type="checkbox"/> x-value / x-veliyu <input checked="" type="checkbox"/> PO	(5)
			[12]

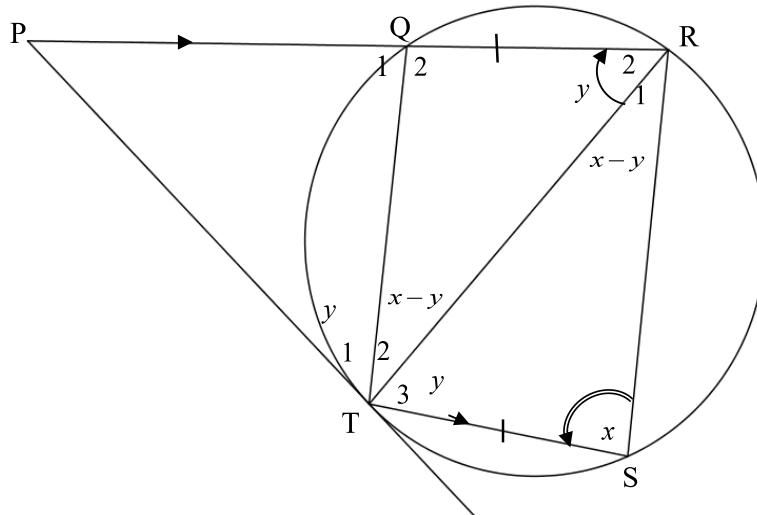


QUESTION 9/UMBUZO 9



9.1	$\hat{O}_1 = 110^\circ$ $\hat{O}_2 = 350^\circ$ $\therefore \hat{C} = 175^\circ$	[\angle s on a str. line / \angle e op reguitlyn] [\angle s around a point / \angle e om 'n punt] [\angle at centre = $2 \times \angle$ at circumf] [Middelpunts \angle = $2 \times$ Omtreks \angle]	✓ S/R ✓ S ✓ R $\hat{O}_1 = 110^\circ$ $\hat{O}_2 = 250^\circ$ $\therefore \hat{C} = 125^\circ$ ✓ S ✓ R	(5)
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9.2

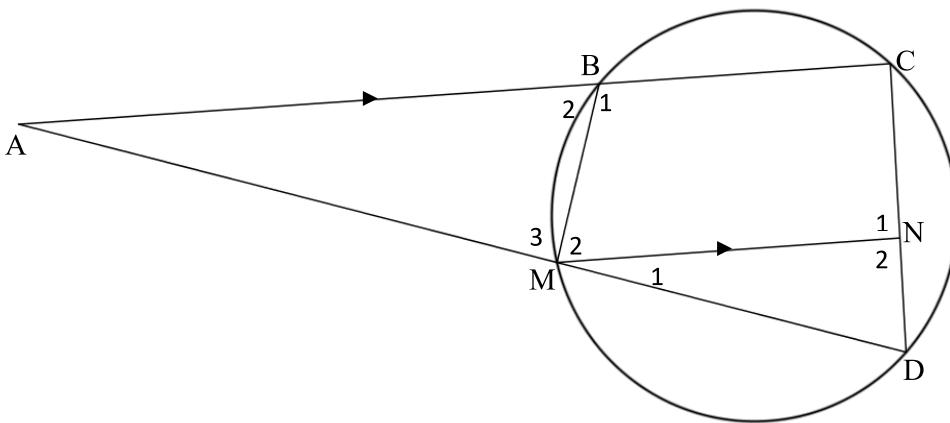


9.2.1	$\hat{T}_1 = y$ [tan chord theorem / raaklyn koord Stelling] $\hat{T}_3 = y$ [alt \angle s / verw. \angle e, PR TS]	<input checked="" type="checkbox"/> S <input checked="" type="checkbox"/> R <input checked="" type="checkbox"/> S <input checked="" type="checkbox"/> R	(4)
9.2.2	$\hat{T}_2 = \hat{R}_1$ [\angle s subt by equal chords / \angle e onderspan deur gelyke koorde]	<input checked="" type="checkbox"/> S <input checked="" type="checkbox"/> R	(2)
9.2.3	$\hat{T}_2 = x - y$ [ext. \angle of a Δ / buite \angle van 'n Δ] $\hat{R}_1 = \hat{T}_2 = x - y$ [proved / bewys] $y + x - y + x = 180^\circ$ [\angle s in ΔTRS / \angle e in ΔTRS] $2x = 180^\circ$ $x = 90^\circ$ $\therefore TR$ is the diameter of the circle [line subt. 90°] TR is die middellyn van die sirkel [lyn onderspan 90°]	<input checked="" type="checkbox"/> S <input checked="" type="checkbox"/> S/R <input checked="" type="checkbox"/> x = 90° <input checked="" type="checkbox"/> R	(4)
			[15]



QUESTION 10 / UMBUZO 10

$AC = 36$ units/yunithi, $AD = 48$ units/yunithi and/aze $BM = 24$ units/yunithi



10.1	$\hat{A} = \hat{A}$ [common / gemeen] $\hat{B}_2 = \hat{D}$ [ext \angle of a cyclic quad / buite \angle van koorderv.] $\hat{M}_3 = \hat{C}$ [ext \angle of a cyclic quad / buite \angle van koorderv.] or / of $[3^{\text{rd}}/\text{de } \angle]$ $\Delta ABM \parallel \Delta ADC$ [$\angle \angle \angle$]	$\checkmark S$ $\checkmark S \quad \checkmark R$ $\checkmark R$ 3 rd angle/3 rd engile OR/OKANYE $\checkmark R \quad \angle \angle \angle$	(4)
10.2	$\frac{BM}{DC} = \frac{AM}{AC}$ $[\parallel \Delta \text{s}]$ but/maar $AM = DC$ [given / gegee] $\frac{BM}{DC} = \frac{DC}{AC}$ $CD^2 = BM \times AC$	$\checkmark S \quad \checkmark R$ $\checkmark AM = DC$	(3)
10.3	$CD^2 = 24 \times 36 = 864$ $\frac{CN}{CD} = \frac{AM}{AD}$ [line \parallel to one side of a Δ] [lyn \square aan een sy van 'n Δ] $AM = CD$ $CN = \frac{CD^2}{AD}$ $= \frac{864}{48}$ $= 18$	\checkmark length of CD^2 / ubude buka CD^2 $\checkmark S \quad \checkmark R$ $\checkmark CN$ in terms of CD^2 / CN ngokwethem zika CD^2 \checkmark correct substitution Ukusaphusityhutha okuchanekileyo \checkmark length of CN Ubude buka CN	(6)
			[13]
		TOTAL/EWONKE:	150

