GRADE/*GRAAD* 12

SEPTEMBER 2021

TECHNICAL MATHEMATICS P2/*TEGNIESE WISKUNDE V2*
MARKING GUIDELINE/*NASIENRIGLYN*

MARKS/*PUNTE*: 150

This marking guideline consists of 15 pages./
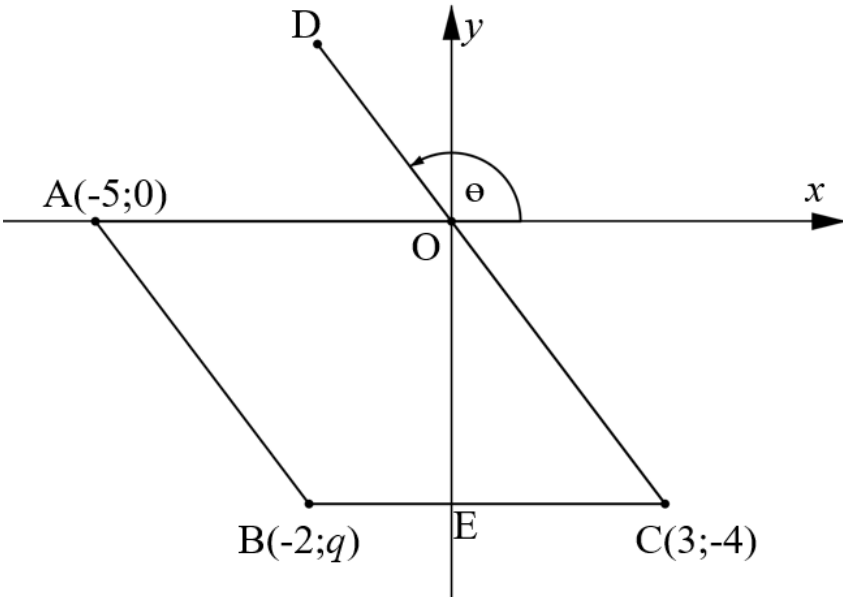*Hierdie nasienriglyn bestaan uit 15 bladsye.*

NOTE:
- Continuous accuracy (CA) applies only where indicated in this marking guideline.
- Assuming values/answers in order to solve a problem is unacceptable.
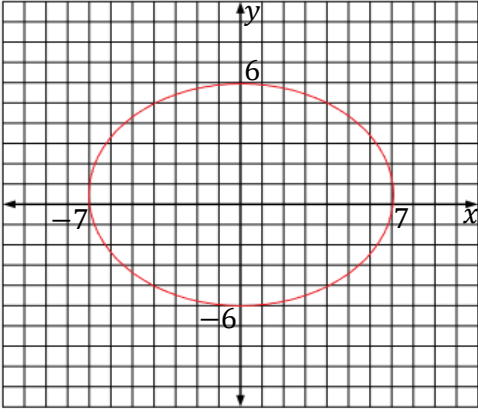
LET WEL:
- *Volgehoue akkuraatheid (CA) is slegs van toepassing soos aangedui in hierdie nasienriglyn.*
- *Aanvaarding van waardes/antwoorde om 'n probleem op te los, is onaanvaarbaar.*

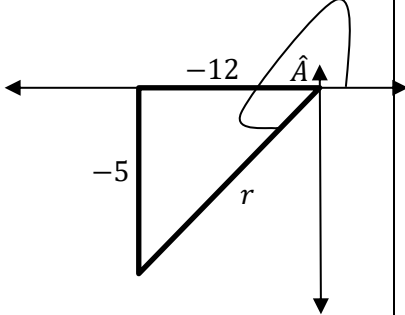| MARKING CODES / *NASIENKODES*	
M	**Method /** *Metode*
A	**Accuracy /** *Akkuraatheid*
AO	**Answer only /** *Slegs antwoord*
CA	**Consistent accuracy /** *Deurlopende akkuraatheid*
F	**Formula /** *Formule*
I	**Identity /** *Identiteit*
R	**Rounding /** *Afronding*
S	**Simplification /** *Vereenvoudiging*
ST	**Statement /** *Bewering*
RE	**Reason /** *Rede*
ST RE	**Statement and correct reason /** *Bewering en korrekte rede*
SF	**Substitution correctly in correct formula /** *Korrekte vervanging in die korrekte formule*
NPU	**No penalty for omitting units /** *Geen penalisering vir eenhede uitgelaat*

QUESTION/*VRAAG* 1

Q		M
1.1	$q = -4$	✓ **A** (1)
1.2	$AB^2 = (-2 + 5)^2 + (-4 - 0)^2$ $\qquad = 9 + 16$ $\quad AB = 5$ units / *eenhede*	✓ **M** ✓ **5 CA** (2)
1.3	$m_{CD} = \dfrac{-4-0}{3-0}$ $\qquad = -\dfrac{4}{3}$ $\tan\theta = -\dfrac{4}{3}$ Ref /*verw*∠ $= \tan^{-1}\left(\dfrac{4}{3}\right)$ $\qquad\quad = 53{,}13°$ $\therefore \theta = 126{,}87°$	✓ $-\dfrac{4}{3}$ **A** ✓ 53,13° **CA** ✓ 126,87° **CA** (3)
1.4	$BC = 3 - (-2) = 3 + 2 = 5$ units / *eenhede* $AO = 0 - (-5) = 5$ units / *eenhede* $\therefore$ABCO is a parallelogram (One pair of opp. side = and ∥ / *Een paar teenoorstaande sye* = en ∥) But / *maar*, AO = AB (from / *vanuit* 1.2) $\therefore$ *ABCO* is a rhombus / *is 'n ruit* (parallelogram with all sides = / *parallelogram met all sye* =)	✓ BC & AO **M** ✓ parm and / *en* reason / *rede* ✓ rhombus / *ruit* ✓ reason / *rede* (4)
		[10]

QUESTION/*VRAAG* 2

Q		M
2.1.1	$x^2 + y^2 = 25 \dots 1$ $y - x - 1 = 0 \dots 2$ $y = x + 1 \dots 3$ sub 3 in 1: $x^2 + (x + 1)^2 = 25$ $x^2 + x^2 + 2x + 1 = 25$ $2x^2 + 2x - 24 = 0$ $x^2 + x - 12 = 0$ $(x + 4)(x - 3) = 0$ $x = -4$ or / *of* $x = 3$ $\therefore y = -3$ or/*of* $y = 4$	✓ $y = x + 1$ ✓ $x^2 + (x + 1)^2 = 25$ ✓ $x^2 + x - 12 = 0$ ✓ $x = -4$ ✓ $x = 3$ ✓ $y = -3$ **CA** ✓ $y = 4$ **CA** (7)
2.1.2	$(3; 2): (3)^2 + (2)^2 = 13$ $\therefore x^2 + y^2 < r^2$ $\therefore$ lies inside the circle / *lê binne die sirkel*	✓ 13 ✓ $x^2 + y^2 < r^2$ **CA** ✓conclusion / *afleiding* (3)
2.1.3	$m_{rad} = \dfrac{0-3}{0-(-4)}$ $\quad\quad = -\dfrac{3}{4}$ $\therefore m_{tan} \times m_{rad} = -1$ $\therefore m_{tan} \times -\dfrac{3}{4} = -1$ $\therefore m_{tan} = -1 \div -\dfrac{3}{4}$ $\therefore m_{tan} = \dfrac{4}{3}$ $y = mx + c$ $\therefore y = \dfrac{4}{3}x + c$ $(-4; 3): 3 = \dfrac{4}{3}(-4) + c$ $3 = \dfrac{-16}{3} + c$ $\dfrac{25}{3} = c$ $\therefore y = \dfrac{4}{3}x + \dfrac{25}{3}$	✓ $-\dfrac{3}{4}$ ✓ $\dfrac{4}{3}$ ✓ $\dfrac{25}{3} = c$ ✓ $y = \dfrac{4}{3}x + \dfrac{25}{3}$ **CA** (4)
2.2	$36x^2 + 49y^2 = 1764$ $\dfrac{36x^2}{1764} + \dfrac{49y^2}{1764} = 1$ $\dfrac{x^2}{49} + \dfrac{y^2}{36} = 1$	✓ $\dfrac{x^2}{49} + \dfrac{y^2}{36} = 1$ ✓ Shape / *vorm* ✓ x-intercept / x-afsnit ✓ y-intercept /y-afsnit (4)
		[18]

QUESTION/*VRAAG* 3

Q			M
3.1.1	$tan4(122.3°) + \frac{2}{3}\cos\left(\frac{210,5°}{4}\right)$ $= -0,8$		✓ **SF** ✓ $-0,8$ (2)
3.1.2	$\frac{1}{sin\left(\frac{\hat{A}}{3}+2B\right)}$ $= \frac{1}{sin\left(\frac{210,5°}{3}+2(122,3°)\right)}$ $= -1,4$		✓ $\frac{1}{sin\left(\frac{A}{3}+2B\right)}$ ✓ **SF** ✓ $-1,4$ (3)
3.2.1	$tan\hat{A} = \frac{5}{12} = \frac{-5}{-12}$ $\therefore cosec^2\hat{A} = \frac{1}{sin^2\hat{A}}$ $cosec^2\hat{A} = \frac{169}{25}$ **OR/*OF*** $tan\hat{A} = \frac{5}{12} = \frac{-5}{-12}$ $\therefore cosec^2\hat{A} = \left(\frac{13}{-5}\right)^2$ $cosec^2\hat{A} = \frac{169}{25}$	 $r^2 = (-12)^2 + (-5)^2$ $\therefore r = 13$	✓ $tanA = \frac{5}{12} = \frac{-5}{-12}$ **A** ✓ correct quadrant / *regte kwadrant* **A** ✓ $r = 13$ **A** ✓ $\frac{1}{sin^2A}$ or / *of* $cosec^2\hat{A} = \left(\frac{13}{-5}\right)^2$ **CA** ✓ $\frac{169}{25}$ **CA** (5)
3.2.2	$sec\hat{A} - sin\hat{A} = \frac{1}{cos\hat{A}} - sin\hat{A}$ $= \frac{1}{\frac{-12}{13}} - \frac{-5}{13}$ $= \frac{13}{-12} - \frac{-5}{13}$ $= \frac{-109}{156}$	**OR/*OF*** $sec\hat{A} - sin\hat{A} = \frac{1}{cos\hat{A}} - sin\hat{A}$ $= \frac{13}{-12} - \frac{-5}{13}$ $= \frac{-109}{156}$	✓ $\frac{1}{cosA}$ or /*of* ✓✓ $\frac{13}{-12}$ ✓ $\frac{1}{\frac{-12}{13}}$ ✓ $\frac{-109}{156}$ **CA** (3)
3.2.3	$tan\hat{A} = \frac{5}{12}$ ref / *verw*∠ $= tan^{-1}\left(\frac{5}{12}\right)$ $= 22,62°$ $\therefore \hat{A} = 180° + 22,62°$ $\hat{A} = 202,62°$		✓ method / *metode* ✓ $22,62°$ ✓ $202,62°$ (3)
			[16]

QUESTION/*VRAAG* 4

Q		M
4.1	$\dfrac{sin(\pi - x).cosec(2\pi - x).tan(\pi + x)}{sec(2\pi - x).cos(2\pi - x)}$ $= \dfrac{sin(180° - x).cosec(360° - x).tan(180° + x)}{sec(360° - x).cos(360° - x)}$ $= \dfrac{sin(x).-\dfrac{1}{\sin (x)}.tan(x)}{\dfrac{1}{\cos (x)}.cos(x)}$ $= \dfrac{-1.tan(x)}{1}$ $= -\tan(x)$ **OR/*OF*** $\dfrac{sin(\pi - x).cosec(2\pi - x).tan(\pi + x)}{sec(2\pi - x).cos(2\pi - x)}$ $= \dfrac{sin(180° - x).cosec(360° - x).tan(180° + x)}{sec(360° - x).cos(360° - x)}$ $= \dfrac{sin(x).-cosec(x).tan(x)}{sec(x).cos(x)}$ $= \dfrac{-1.tan(x)}{1}$ $= -\tan(x)$	✓correct conversion of rad to degrees / *korrekte herleiding van rad na grade* ✓ $sin(x)$ ✓ $-\dfrac{1}{\sin (x)}$ ✓ $tan(x)$ ✓ $\dfrac{1}{\cos (x)}$ ✓ $cos(x)$ ✓$\dfrac{-1.tan(x)}{1}$ ✓$-\tan(x)$ (8) **OR/*OF*** ✓correct conversion of rad to degrees / *korrekte herleiding van rad na grade* ✓ $sin(x)$ ✓ $-cosec(x)$ ✓ $tan(x)$ ✓$sec(x)$ ✓$cos(x)$ ✓$\dfrac{-1.tan(x)}{1}$ ✓$-\tan(x)$ (8)
4.2	$LHS/LK = \dfrac{cos\theta}{1-sin\theta} - tan\theta$ $= \dfrac{cos\theta}{1-sin\theta} - \dfrac{sin\theta}{cos\theta}$ $= \dfrac{cos\theta.cos\theta-sin\theta(1-sin\theta)}{cos\theta(1-sin\theta)}$ $= \dfrac{cos^2\theta-sin\theta+sin^2\theta}{cos\theta(1-sin\theta)}$ $= \dfrac{1-sin\theta}{cos\theta(1-sin\theta)}$ $= \dfrac{1}{cos\theta}$ $= sec\theta = RHS/RK$	✓ $\dfrac{sin\theta}{cos\theta}$ ✓ $cos\theta(1-sin\theta)$ ✓$cos^2\theta - sin\theta + sin^2\theta$ ✓$\dfrac{1-sin\theta}{cos\theta(1-sin\theta)}$ ✓$\dfrac{1}{cos\theta}$ (5)
		[13]

QUESTION/*VRAAG* 5
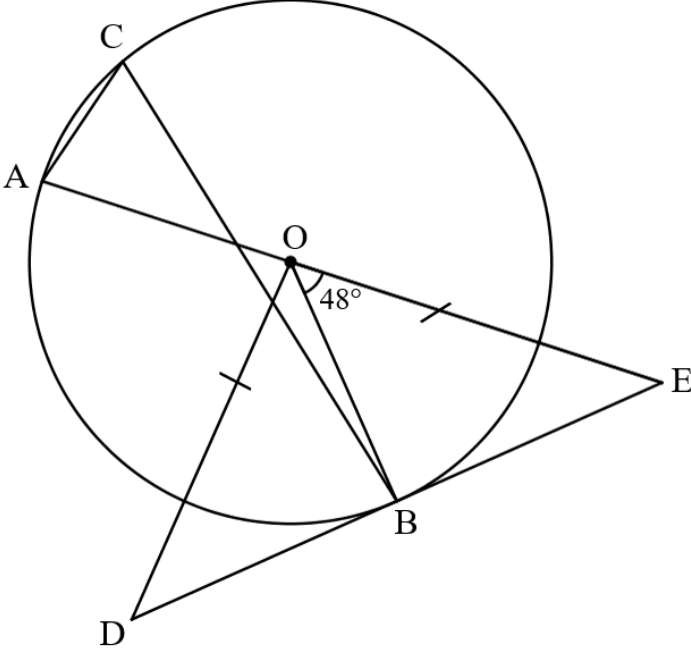
Q			M
5.1			✓ cos start and end point / cos *begin- en eindpunte* ✓ cos turningpoints / cos draaipunte ✓ cos x-intercepts/cos x-afsnitte ✓ sin start and end point / *sin begin- en eindpunte* ✓ sin turningpoints / sin *draaipunte* ✓ sin x-intercepts/sin x-afsnitte (6)
5.2.1	120°		✓ 120° (1)
5.2.2	(a)	$x = 30°$ and / *en* $x = 120°$	✓ $x = 30°$ ✓ $x = 120°$ (2)
	(b)	$90° \leq x \leq 150°$	✓ $90° \leq$ ✓ $\leq 150°$ (2)
			[11]

QUESTION/*VRAAG* 6
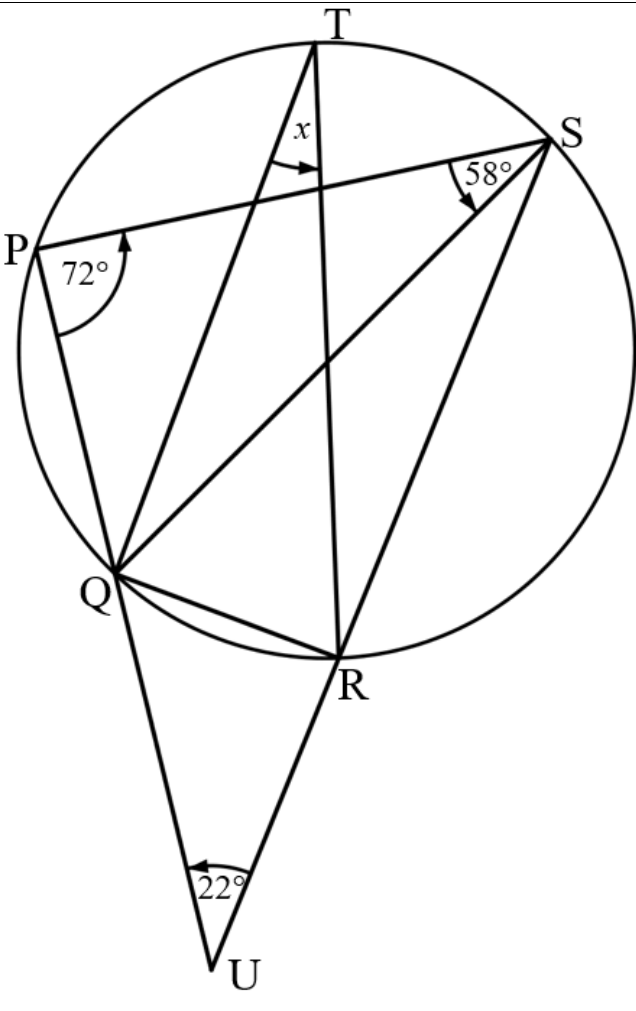
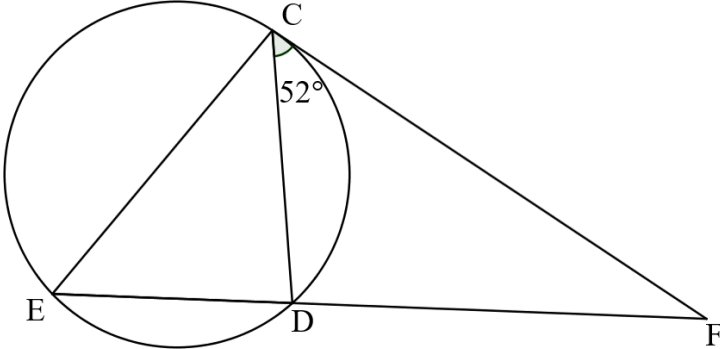| Q		M
6.1	AB = 8 cm (opp sides of rec = / *teenoorst. sye van reghoek* =)	✓ 8 cm **ST** ✓ **RE** (2)
6.2	$\frac{BE}{8} = \tan 30°$ BE = 4,62 cm = 5 cm	✓ $\frac{BE}{8} = \tan 30°$ **M** ✓ 5 cm (2)
6.3	$\frac{\sin E\hat{B}C}{9} = \frac{\sin 30°}{4,62}$ $\sin E\hat{B}C = \frac{\sin 30°}{4,62} \times 9$ $E\hat{B}C = 76,91° = 77°$	✓ **SF** ✓ $\sin E\hat{B}C = \frac{\sin 30°}{4,62} \times$ 9 ✓ 77° (3)
6.4	$B\hat{E}C = 180° - 30° - 77°$ $\quad = 73°$ (Int. ∠'s of ΔBEC/ *Binne.* ∠*'e van* ΔBEC) $Area\ \Delta BCE = \frac{1}{2}a.b.\sin\hat{C}$ $\quad\quad = \frac{1}{2}(5)(9)\sin 73°$ $\quad\quad = 21,52\ cm^2$	✓ **ST RE** ✓ $\frac{1}{2}(5)(9)\sin 73°$ **SF** ✓ 21,52 cm² **CA** (3)
6.5	$CF^2 = CE^2 + FE^2 - 2(CE)(FE)\cos C\hat{E}F$ $CF^2 = (9)^2 + (10)^2 - 2(9)(10)\cos(25°)$ $\quad = 17,86 \dots$ $CF = \sqrt{17,86 \dots}$ $CF = 4,22 \dots = 4\ cm$	✓ $(9)^2 + (10)^2 -$ $2(9)(10)\cos(25°)$ **SF** ✓ 17,86 ... **S** ✓ 4 cm **CA** (3)
		[13]

QUESTION/*VRAAG* **7**

Q		M
7.1	double the size of the angle subtended by the same arc at the circumference of a circle / *is dubbel die grootte van die hoek wat dit by dieselfde koord die omtrek van 'n sirkel onderspan*	✓ (1)
7.2		
7.2.1	$A\hat{O}B = 180° − 48°$ …(suppl. ∠'s/ *suppl. ∠'e*) $= 132°$	✓ **ST RE** (1)
7.2.2	$\hat{C} = \frac{1}{2}(132°)$…(∠ at centre = 2 x ∠ at circum./ *∠ by midpt = 2 x ∠ by omtrek*) $= 66°$	✓ **RE** ✓ 66° **ST** (2)
7.2.3	$O\hat{B}E = 90°$ …(tan ⊥ rad) $A\hat{E}D = 180° − (90° + 48°)$ $= 42°$ (int ∠'s of triangle / *binne ∠'e van driehoek*)	✓ **ST** ✓ **RE** ✓ **ST RE** (3)
7.2.4	$\hat{D} = A\hat{E}D = 42°$ …(∠'s opp.= sides /*∠'e teenoor = sye*) $A\hat{O}D = 84$ ….(ext ∠ of Δ / *buite ∠ van Δ*	✓ **ST RE** ✓ **ST RE** (2)
7.2.5	$BE^2 = OE^2 − OB^2$ ….(Pythagoras) $= 7^2 − 5^2$ $= 24$ $BE = \sqrt{24} \approx 4{,}9$ cm	✓ **M Pythagoras** ✓ **ST** $BE^2 = 24$ ✓ **ST** $BE = \sqrt{24}$ (3)
		[12]

QUESTION/*VRAAG* **8**

Q		M
8.1	supplementary / *supplementêr*	✓ (1)
8.2		
8.2.1 (a)	$Q\hat{S}R = \hat{T} = x$ (∠'s subt.chord QR / (∠'e *onderspan deur krd* QR)	✓ **ST** ✓ **RE** (2)
8.2.2 (b)	$P\hat{Q}R = 180° - (58° + x)$ (opp. ∠'s quad/*teenoorts.* ∠'e kvh) $= 122° - x$	✓ **ST** ✓ **RE** ✓ $122° - x$ **ST** (3)
8.2.2	$\hat{U} + U\hat{Q}R + U\hat{R}Q = 180°$ (int. ∠'s Δ/*binne* ∠'e Δ) $22° + 72° + x + 58° = 180°$ $x = 28°$ **OR/***OF* $\hat{P} + \hat{S} + \hat{U} = 180°$ (int. ∠'s Δ/ *binne* ∠'e Δ) $72° + 58° + x + 22° = 180°$ $x = 28°$	✓ **ST RE** ✓ $x = 28°$ **ST** (2) **OR/***OF* ✓ **ST RE** ✓ $x = 28°$ **ST** (2)
		[8]

QUESTION/*VRAAG* **9**

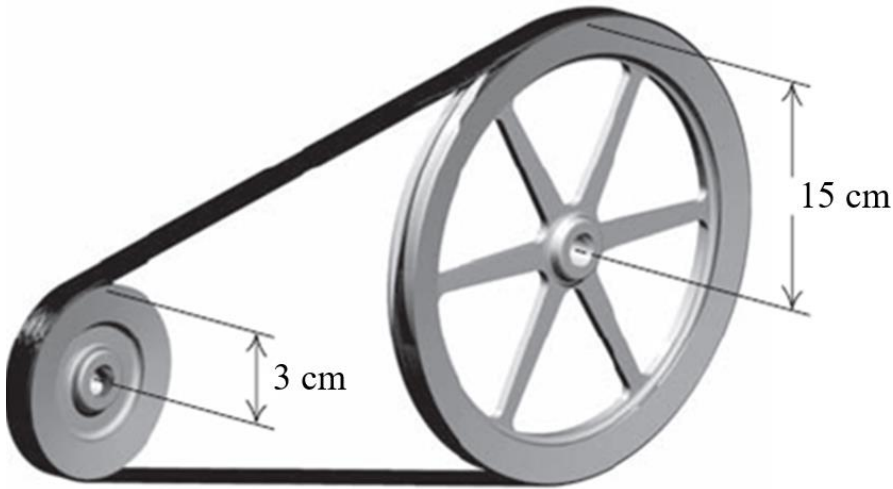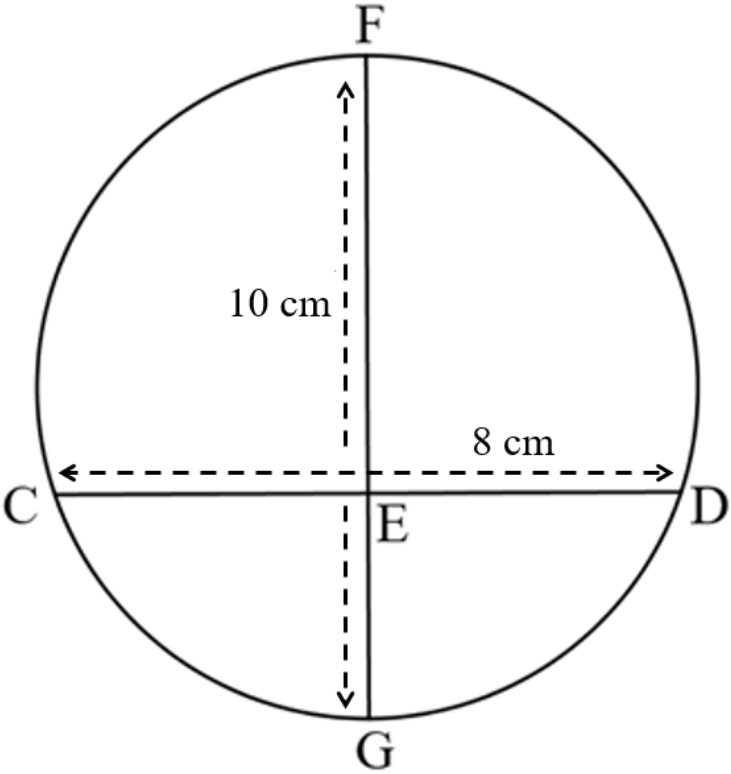| Q		M
9.1	All angles of the one triangle is equal to the angles in the other triangle / *Alle hoeke van die een driehoek is gelyk aan die hoeke van die ander driehoek* Sides of triangles are in proportion / *Sye van die driehoek is in verhouding*	✓ **ST** ✓ **ST** (2)
9.2		
9.2.1	In ΔCDF and/*en* ΔECF: $F\hat{C}D = C\hat{E}D = 52°$ (tanchord / *raaklyn koord*) $C\hat{F}D = C\hat{F}E$ (common ∠ / *gemene* ∠) $C\hat{D}F = D\hat{C}E$ (int. ∠'s Δ/ *binne* ∠'e Δ)) ∴ $\Delta CDF \parallel\!\!\!\mid \Delta ECF$ (∠∠∠)	✓ **ST RE** ✓ **ST RE** ✓ **ST** $\Delta CDF \parallel\!\!\!\mid \Delta ECF$ **OR** ✓ **RE** (∠∠∠) (4)
9.2.2	$\frac{CD}{EC} = \frac{DF}{CF} = \frac{CF}{EF}$ ($\Delta CDF \parallel\!\!\!\mid \Delta ECF$) ∴ $CF^2 = EF.FD$	✓ $\frac{CD}{EC} = \frac{DF}{CF} = \frac{CF}{EF}$ **ST** ✓ $CF^2 = EF.FD$ **ST** (2)
9.2.3	$DF = 15 - 6 = 9$ $\frac{CD}{EC} = \frac{DF}{CF} = \frac{CF}{EF}$ (from 9.2.2 / *vanuit* 9.2.2) ∴ $\frac{9}{CF} = \frac{CF}{15}$ ∴ $CF^2 = 135$ ∴ $CF \approx 12$ cm **OR/***OF* $CF^2 = 15 \times 9$ (from 9.2.2 / *vanuit* 9.2.2) $CF = \sqrt{135}$ $CF = 11,619 \dots$ ∴ $CF = 12$ cm	✓$DF = 9$ **A** ✓ $\frac{9}{CF} = \frac{CF}{15}$ **SF** ✓ $CF^2 = 135$ **CA** ✓ 12 cm **CA R** (4) **OR/***OF* ✓$CF^2 = 15 \times 9$ **A** ✓ $CF = \sqrt{135}$ **S** ✓ $CF = 11,619 \dots$ **CA** ✓ 12 cm **CA R** (4)
9.2.4	$\frac{CD}{EC} = \frac{12}{15} = \frac{4}{5}$	✓ $\frac{12}{15}$ **SF A** ✓ $\frac{4}{5}$ **A** (2)
9.2.5	$E\hat{C}F = 44° + 52° = 96° \neq 90°$ ∴ CE not a diameter / *CE nie 'n middellyn nie* (Diameter not perpendicular to tangent/*middellyn nie loodreg met raaklyn nie*)	✓ **ST** ✓ **ST RE** (2)

	OR/*OF*	OR/*OF*
	$C\widehat{D}E = 180° - 44° - 52° = 86° \neq 90°$ $\therefore CE$ not a diameter / *CE nie 'n middellyn nie* (not Converse $\angle$'s in semi-circle / *nie-omgekeerde $\angle$'e in semi-sirkel*)	✓ **ST** ✓ **ST RE** (2)
		[16]

QUESTION/*VRAAG* 10

Q		**M**
10.1		
10.1.1	$\widehat{A} = 30° \times \frac{\pi}{180°}$ $\widehat{A} = \frac{\pi}{6}$ radians / *radiale*	✓ $\times \frac{\pi}{180°}$ ✓ $\frac{\pi}{6}$ radians/*radiale* (2)
10.1.2	$s = r\theta$ $BG = (4)\left(\frac{\pi}{6}\right)$ $BG = \frac{2\pi}{3}$ cm	✓ **F** ✓ **SF** ✓ $\frac{2\pi}{3}$ cm (3)
10.1.3	Area of a sector / *Opp van 'n sektor* $= \frac{r^2\theta}{2}$ $\therefore$ Area of sector AEC / *Opp van sektor AEC* $= \frac{(9)^2\frac{\pi}{6}}{2}$ $\qquad\qquad\qquad\qquad\qquad\qquad = \frac{3\pi}{2}$ cm^2	✓ **F** ✓ **SF** ✓ $\frac{3\pi}{2}$ cm^2 (3)
10.1.4	Area of a sector / *Opp van 'n sektor* $= \frac{r^2\theta}{2}$ $\therefore$ Area of sector ABG / *Opp van sektor ABG* $= \frac{(4)^2\frac{\pi}{6}}{2}$ $\qquad\qquad\qquad\qquad\qquad\qquad = \frac{4\pi}{3}$ cm^2 $\therefore$ Area of BECG / *Opp van BECG* $= \frac{27\pi}{4} - \frac{4\pi}{3}$ $\therefore$ Area of BECG / *Opp van BECG* $= \frac{65\pi}{12}$ cm^2	✓ **SF** ✓ $\frac{4\pi}{3}$ ✓ **M** ✓ $\frac{65\pi}{12}$ (4)

10.2		
10.2.1	$\omega = 2\pi n$ $\omega = 2\pi(120)$ $\omega = 240\pi$ rad/min	✓ **F** ✓ **SF** ✓ 240π rad/min (3)
10.2.2	$v = \pi D n$ $v = \pi(3 \times 2)(120)$ $v = 720\pi$ cm/min **OR/*OF*** $v = r\omega$ $v = (3)(240\pi)$ $v = 720\pi$ cm/min	✓ **F** ✓ **SF** ✓ 720π cm/min **OR/*OF*** ✓ **F** ✓ **SF** ✓ 720π cm/min (3)
10.2.3	Linear speed of large pulley / *reglynige spoed van groter katrol* $=$ 720π cm / min $v = \omega r$ $720\pi = \omega(15)$ 48π rad / min $= \omega$	✓ **F** ✓ **SF** ✓ 48π rad/min (3)

10.3

$4h^2 - 4dh + x^2 = 0$	✓ **F**
$4h^2 - 4(10)h + (8)^2 = 0$	✓ **SF**
$4h^2 - 40h + 64 = 0$	✓ Standard
$h^2 - 10h + 16 = 0$	form/*standaard*
$(h - 8)(h - 2) = 0$	*vorm*
∴ $h = 8$ cm or/of $h = 2$ cm	✓ **M**
∴ $h = 2$ cm	
	✓ $h = 2$ cm
OR/*OF*	**OR/*OF***
$CE = 4$ (line from centre perpendicular to chord / *lyn vanaf*	✓ **ST RE**
middelpunt loodreg op koord)	
$FO = OG$ (radii)	✓ **ST RE**
$OC^2 = OE^2 + CE^2$ (Pyth)	
∴ $OE^2 = OC^2 - CE^2$	
∴ $OE^2 = (5)^2 - (4)^2$	✓ $OE^2 =$
∴ $OE^2 = 25 - 16$	$(5)^2 - (4)^2$ **SF**
∴ $OE^2 = 9$	
∴ $OE = \pm\sqrt{9}$	
∴ $OE = \pm 3$	
∴ $OE = 3$ cm	
∴ $EG = 5 - 3$	✓ $OE = 3$ cm
∴ $EG = 2$ cm	**CA**
	✓ $EG = 2$ cm
	CA
	(5)
	[26]

QUESTION/*VRAAG* 11

Q		M
11.1		
	$A_T = a(m_1 + m_2 + m_3 + \ldots + m_n)$ $A_T = 3(6,4 + 5,45 + 4,7 + 4,25 + 4,25)$ $A_T = 3(25,05)$ $A_T = 75,15 \text{ cm}^2$ **OR/*OF*** $A_T = a\left(\frac{o_1 + o_n}{2} + o_2 + o_3 + o_4 + \cdots + o_{n-1}\right)$ $A_T = 3\left(\frac{5,9 + 5,4}{2} + 6,9 + 4 + 5,4 + 3,1\right)$ $A_T = 3(25,05)$ $A_T = 75,15 \text{ cm}^2$	✓ **F** ✓ **SF** ✓ **S** ✓ $75,15 \text{ cm}^2$ **OR/*OF*** ✓ **F** ✓ **SF** ✓ **S** ✓ $75,15 \text{ cm}^2$ (4)
11.2		
	$TSA = 2\pi r^2 + 2\pi rh - \pi r^2 - \pi r^2$ $TSA = 2\pi\left(\frac{1,85}{2}\right)^2 + 2\pi\left(\frac{1,85}{2}\right)(2,5) - \pi\left(\frac{1,85}{2}\right)^2 - \pi\left(\frac{1}{2}\right)^2$ $TSA = 16,43 \text{ m}^2$	✓ **F** ✓ **SF** ✓ $17,22 \text{ m}^2$ (3)
		[7]
	TOTAL/*TOTAAL*:	**150**