education
MPUMALANGA PROVINCE
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE/ *NASIONALE SENIOR SERTIFIKAAT*

GRADE/*GRAAD* 12

MATHEMATICAL LITERACY P2/

WISKUNDIGE GELETTERDHEID V2

SEPTEMBER 2026

MARKING GUIDELINES/*NASIENRIGLYNE*

MARKS/PUNTE: 150

Symbol/*Simbool*	**Explanation/*Verduideliking***
MA	Method/ *with accuracy Metode met akkuraatheid*
MCA	Method with accuracy/*Metode met volgehoue akkuraatheid*
CA	Consistent accuracy/*Volgehoue akkuraatheid*
A	Accuracy/*Akkuraatheid*
C	Conversion/*Herleiding*
S	Simplification/*Vereenvoudiging*
RT	Reading from a table/graph/document/diagram / *Lees vanaf tabel/grafiek/dokument/diagram*
SF	Correct substitution in a formula/*Korrekte vervanging in formule*
O	Opinion/E×planation/*Mening/Verduideliking*
P	Penalty, e.g. for no units, incorrect rounding off, etc. / *Straf, bv. Geen eenhede/verkeerde afronding, ens.*
R	Rounding off/*Afronding*
NPR	No penalty for rounding/units/*Geen straf vir afronding/eenhede*
AO	Answer only/*Slegs antwoord*
RCA	Method with consistent accuracy/ *Afronding met volgehoue akkuraatheid*

These marking guidelines consists of 19 pages
Hierdie nasienriglyn bestaan uit 19 bladsye

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- If a candidate answers a question TWICE, only mark the FIRST attempt.
- If a candidate has crossed out (cancelled) an attempt to a question and NOT redone the solution, mark the crossed out (cancelled) version.
- Consistent accuracy (CA) applies in ALL aspects of the marking guidelines; however, it stops at the second calculation error.
  - NOTE: Consistent accuracy (CA) does not apply in cases of a break down.
- If the candidate presents any extra solution when reading from a graph, table, layout plan and map, then penalise for every extra item presented.
- Rounding is an independent mark.
- As a general marking principle, if a candidate has incurred one mistake and there is evidence of sound mathematics thereafter then that candidate should lose one mark only.
- A conclusion mark can only be given if ⅓ of the total marks for the sub-question have been awarded.
- No penalty for rounding (NPR) if the first decimal is correct.

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 (kanselleer) en nie oordoen nie, sien die doodgetrekte (gekanselleerde) poging na.*
- *Volgehoue akkuraatheid (CA) word in ALLE aspekte van die nasienriglyne toegepas, dit hou op by die tweede berekeningsfout*
  - *Let well: Volgehoue akkuraatheid (CA) geld nie in die geval van 'n afbreuk nie.*
- *Wanneer 'n kandidaat aflesings vanaf 'n grafiek, tabel, uitlegplan en kaart geneem het en ekstra antwoorde gee,penaliseer vir elke ekstra item.*
  - *'n Algemene nasienbeginsel is dat indien 'n kandidaat een fout maak en daarna voortgaan met korrekte wiskunde, dat die kandidaat slegs een punt verloor.*
  - *Afronding tel as 'n onafsonderlike punt*
  - *'n Gevolgtrekkingspunt kan slegs gegee word indien relevante berekeninge dit voorgaan.*
  - *Geen penalisering vir ronding (NPR) as die eerste desimaal korrek is nie.*

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T/L
1.1.1	Actual ground /*Werklike grond* ✓✓A **OR/*OF*** Reality / *Werklikheid* ✓✓A **OR/*OF*** Real life / *Werklike lewe* ✓✓A	2A correct answer / *korrekte antwoord* (2)	MP L1 E
1.1.2	Bar Scale/ Graphical scale / Line scale *Staafskaal/ Grafiesie skaal / Lyn skaal* ✓✓A	2A correct answer / *korrekte antwoord* (2)	MP L1 E
1.2.1	D ✓✓A	2A correct answer/ *korrekte antwoord* (2)	MP L1 E
1.2.2	A ✓✓A	2A correct answer / *korrekte antwoord* (2)	M L1 E
1.2.3	E ✓✓A	2A correct answer / *korrekte antwoord* (2)	P L1 E
1.2.4	J ✓✓A	2A correct answer / *korrekte antwoord* (2)	MP L1 E
1.2.5	G ✓✓A	2A correct answer / / *korrekte antwoord* (2)	M L1 E
1.2.6	K ✓✓A	2A correct answer / *korrekte antwoord* (2)	M L1 E
1.3.1	Floor plan /*Vloerplan* ✓✓A	2A correct answer / *korrekte antwoord* (2)	MP L1 E

		kant (2)	L1 E
1.3.3	Three Dimensional / *Driedimensioneel* ✓✓A **OR/*OF*** 3D ✓✓A	2A correct option / *korrekte opsie* (2)	MP L1 E
1.4.1	Socket ring/*Sokring* ✓✓A	2A correct name / *korrekte naam* (2)	MP L1 E
1.4.2	Part 4/*Deel 4* ✓✓A **OR/*OF*** Instruction manual / *Insturksiehandleiding* ✓✓A	2A correct name/ *korrekte naam* (2)	MP L1 E
1.4.3	B ✓✓A	2A correct name/ *korrekte naam* (2)	MP L1 E
1.4.4	False /*Vals* ✓✓A	2A correct option / *korrekte opsie* (2)	MP L1 E

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T/L
2.1.1	Seating plan shows arrangement of seats in the cinema./ *Die sitplekplan wys die rangskikking van sitplekke in die bioskoop* ✓✓A	2A correct definition / *korrekte definisie* (2)	Maps L1 E
2.1.2	NW ✓✓A	2A correct direction/ *korrekte rigting* (2)	Maps L1 E
2.1.3	Total number of seats / *Totale aantal sitplekke* = 160 ✓A $\frac{60}{100} \times 160 = 96$ ✓CA ✓MCA 160 – 96 = 64 ✓CA CORRECT ✓J **OR/*OF*** Total number of seats / *Totale aantal sitplekke* = 160 ✓A 100 % – 60 % = 40 % ✓A ✓MCA $\frac{40}{100} \times 160 = 64$ ✓CA CORRECT/*KORREK* ✓O	1A total number of seats/*totale aantal sitplekke* 1CA calculating 60% of seats/ *bereken 60% van die sitplekke* 1MCA subtracting correct values/ *trek korrek waardes af* 1CA number of vacant seats/ *aantal oop sitplekke* 1J conclusion/ *gevolgtrekking* **OR/*OF*** 1A total number of seats/ *totale aantal sitplekke* 1A 40% 1MCA calculating unoccupied seats/ *bereken oop sitplekke* 1CA number of vacant seats/ *aantal oop sitplekke* 1O conclusion/ *gevolgtrekking* (5)	Maps L4 M
2.1.4	G 8 ✓✓ RT & G7 ✓ RT	2 RT 1st correct seat/ *korrekte sitplek* 1RT 2nd second seat/ *korrekte sitplek* (3)	Maps L2 M
2.1.5	Ramp/*Oprit* ✓✓A **OR/*OF*** Sign of wheelchair / *Simbool van Rolstoel* ✓✓A **OR/*OF*** Picture of wheelchair / *Prentjie van rolstoel* ✓✓A	2A correct feature/*korrekte kenmerk* **OR/*OF*** 2A correct feature/*korrekte kenmerk* **OR/*OF*** 2A correct feature/*korrekte kenmerk* (2)	Maps L1 M

2.1.6	As you enter the cinema from the back , turn right ✓A follow the Aisle turn left, ✓A turn left , turn right ✓A passing row F, on row E ✓A turn right to seat number 9 *Wanneer jy die bioskoop van agter binnegaan, draai regs, volg die gangpad, draai links, draai links, draai regs verby ry F, op ry E draai regs na sitplek nommer 9* **OR/*OF*** As you enter the cinema from the back , turn East ✓A follow the Aisle turn north, ✓A turn west , ✓A turn north passing row F, on row E turn east to seat number 9 ✓A ✓A Wanneer jy die bioskoop van agter binnegaan, draai oos, volg die gangpad, draai noord, draai west, draai noord verby ry F, op ry E draai oos na sitplek nommer 9 **OR/*OF*** As you enter the cinema from the back , turn right/east ✓A follow the Aisle turn ✓A left/north, continue ✓A straight/north until you ✓A reach row E on your left/west, continue straight/west to seat number 9 , *Wanneer jy die bioskoop van agter binnegaan, draai regs/oos, volg die gangpad, draai links,/noord hou aan reguitt/noord loop, draai links/wes by ry E, loop reguit /wes tot sitplek nommer 9*	1A right / *regs* 1A left / *links* 1A left / *links* 1A right passing row F / *regs verby ry F* 1A right on row E / *regs na ry E* **OR/*OF*** 1A east/ *oos* 1A north/ *noord* 1A west / *wes* 1A north passing row F/ *Noord verby ry F* 1A east on row E/ oos *op ry E* **OR/*OF*** 1A right/east / *regs/oos* 1A left/north / *links/noord* 1A Straight/north/ *reguit/noord* 1A left/west on row E / *links/wes by ry E* 1A continue straight/west to seat 9 / *beweeg reguit/wes na sitplek 9* (5)	Maps L2 M

2.2.1	✓ MA $2 \times 3 \times 2 = 12$ ✓ A	1MA multiply correct values/ *vermenigvuldig korrekte waardes* 1A Simplification/ *Vereenvoudiging* **AO** (2)	P L2 M
2.2.2	(i) C/*K* ✓ A (ii) J ✓ A (iii) RWJ/*GWJ* ✓ A	3A correct answer/*korrekte antwoord* (3)	P L2 E
2.2.3	✓ A ✓ CA $\frac{6}{12} \times 100 = 50\ \%$ ✓ CA **OR/*OF*** $\frac{1}{2}$ ✓ A $\times 100 = 50\ \%$ ✓ CA ✓ A	**CA from 2.2.1** 1A numerator / *Teller* 1CA denominator / *noemer* 1CA percentage/ *persentasie* **OR/*OF*** 1A numerator / *Teller* 1A denominator / *Noemer* 1A percentage / *persentasie* **AO** (3)	P L2 M

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T/L
3.1.1	✓MA ✓MA 4.6 m – 3.9 m $= \frac{0,7\ \text{m}}{2} = 0,35\ m$	1MA subtracting correct values/ *trek korrekte waardes af* 1MA dividing by 2 / *deel met 2* (2)	M L2 E
3.1.2	✓A $\frac{3,9\ \text{m}}{2} = 1,95\ m$ ✓SF ✓CA $3,142 \times 1,95^2 = 11,947455\ \text{m}^2$ $\approx 12\ \text{m}^2$ ✓R	1A calculating radius / *bereken radius* 1SF substitute to correct formula Values/*vervang korrekte waardes in formule* 1CA Simplification/ *vereenvoudiging* 1R rounding/*afronding* (4)	M L2 E
3.1.3	Safety / *Veiligheid* ✓✓O	2A correct reason / *regte rede* (2)	M L4 M
3.1.4	Area of outer circle/ *Oppervlakte buitrenste sirkel* $\frac{4,6\ \text{m}}{2} = 2,3\ m$ ✓A ✓SF $3,142 \times 2,3^2 = 16,62118\ \text{m}^2$ ✓CA Area inner circle (from 3.1.2) /*Oppervlakte van binne sirkel (vanaf 3.1.2)* $=3,142 \times 1,95^2 = 11,95\ \text{m}^2$ Area of pads / *Oppervlakte van kussings* ✓MCA ✓CA $16,62118\ \text{m}^2 - 11,947455\ \text{m}^2 = 4,673725\ \text{m}^2$ INCORRECT/ NIE KORREK NIE ✓O	**Ca from 3.1.2 /CA *van 3.1.2*** 1A radius 1SF substitute to correct formula/*invervang in korrekte formule* 1CA correct area/*korrekte oppervlakte* 1MCA subtracting both areas (rom / *trek beide oppervlaktes af* 1CA simplification/ *vereenvoudiging* 1O Conclusion/*gevolgtrekking* **NPR** (6)	

3.2.1	✓RT 755 feet/*voet* × 30,48 = 23 012,4 cm ✓C 23 012,4 cm × 23 012,4 cm ✓SF = 529 570 553,8 cm^2 ✓CA **OR/*OF*** ✓RT ✓SF 755 × 755 = 570 025 ft^2 ✓CA 570 025 × 30,48^2 = 529 570 553,8 cm^2 ✓C	1RT length of base/*lengte van basis* 1C feet to cm/*voet na cm* 1SF substitute to correct formula/ *invervang na korrekte formule* 1CA simplification/ *vereenvoudiging* **OR/*OF*** 1RT length of base/*lengte van basis* 1SF substitute to correct formula/ *invervang na korrekte formule* to cm/*voet na cm* 1CA simplification/ *vereenvoudiging* 1C feet (4)	M L2 M

3.2.2	$\frac{1}{2}$ × 755 feet/*voet*× 450 feet/*voet* ✓SF = 169 875 feet^2/*voet*^{2} ✓A ✓MA 169 875 feet^2 / *voet*^{2} × 4 = 679 500 feet^2 / *voet*^{2} ✓CA ≈ 680 000 feet^2/ *voet*^{2} ✓R	1SF correct formula/*korrekte formule* 1A area/*oppervlakte* 1MA multiply by 4/ *vermenigvuldig met 4* 1CA simplification / *vereenvoudiging* 1R rounding /*afronding* (5)	M L2 M
3.3.1	✓C ✓ CA 2,5 tons/*ton* × 1 000 = 2 500 kg ✓ MCA 2 500 kg × 2 300 000 = 5 750 000 000 kg ✓ CA **OR/*OF*** ✓ MA 2,5 tons/*ton* × 2 300 000 = 5 750 000 tonnes/*ton* ✓ A 5 750 000 tonnes/*ton* × 1 000 ✓ C 5 750 000 000 kg ✓ CA	1 C tons to kg/*ton na kg* 1CA weight in kg/*gewig in kg* 1MCA multiply correct values/ *vermenigvuldig korrekte waardes* 1CA simplification/ *vereenvoudiging* **OR/*OF*** 1MA multiply correct values/ *vermenigvuldig korrekte waardes* 1A weight in tonnes/ *gewig in ton* 1 C tons to kg/ *ton na kg* 1CA simplification/ *vereenvoudiging* (4)	M L2 M

3.3.2	✓ C 2,6 million m^3 /*miljoen* m^3× 1000 litres = 2 600 million liters/ *miljoen liters* ✓ A ✓ C $\frac{\text{2 600 million liters/ } miljoen\ liters}{28{,}3168466}$ 91,81813345 million $feet^3$/*miljoen voet*^{3} 91, 81813345 × 1 000 000 ✓ MA 91 818 133,45 $feet^3$/*voet*^{3} ✓ CA **OR/*OF*** ✓ C $\frac{\text{2 ,6 million cubic metres /miljoen vierkante meters}}{28{,}3168466}$ ✓ A 0,091818133 *million* $feet^3$/*miljoen voet*^{3} ✓ C 0,091818133 *million* ft^3/ *miljoen* vt^3 × 1 000 ✓MA 91,81813345 million litres/*miljoen liters* × 1 000 000 91 818 133,45 $feet^3$/*voet*^{3} ✓ CA	1C from m^3 to litres/ *van* m^3 *na liters* 1A volume to litres/*volume na liters* 1 C volume to $feet^3$ /volume na $voet^3$ 1MA multiply by 1000 000/ *vermenigvuldig met 1 000 000* 1CA simplification/ *vereenvoudiging* **OR/*OF*** 1C volume to $feet^3$/*volume na* $voet^3$ 1A volume to $feet^3$/*volume na* $voet^3$ 1C from $feet^3$ to litres/*van* $voet^3$ *na liters* 1MA multiply by 1000 000/ *vermenigvuldiging met 1000* 1CA simplification/ *vereenvoudiging* **NPR** (5)	M L2 M

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T/L
4.1.1	R 40 ✓✓A	2A correct value/*korrekte waarde* (2)	Maps L1 E
4.1.2	$1h\ 7\ \text{min} = 1 + (\frac{7}{60})$ ✓RT = 1,116666666 hours/*uur* ✓A ✓SF $\frac{4{,}8\ \text{km}}{1{,}11666666} = 4{,}29\ km/h$ ✓CA INVALID/*NIE GELDIG NIE* ✓O ✓RT **OR/*OF*** 1h 7 min = (1 x 60) + 7 67 minutes/*minute* 67 ÷ 60 = 1,11666666 hours /*ure* ✓C ✓SF $\frac{4{,}8\ \text{km}}{1{,}11666666} = 4{,}29\ km/h$ ✓CA INVALID/*NIE GELDIG NIE* ✓O **OR/*OF*** Speed/*spoed* = distance/*afstand* ÷ time/*tyd* 5 km/h = $\frac{\text{distance /}afstand}{\text{1h 7 min}}$ ✓SF ✓RT 5 km/h × 1,11666666 ✓C = distance/*afstand* distance/*afstand* = 5,5833 km ✓A INVALID/*NIE GELDIG NIE* ✓O **OR/*OF*** Speed/*spoed* = distance/*afstand* ÷ time/*tyd* 5 km/h = $\frac{4{,}8\ \text{km}}{time\ /\ Tyd}$ ✓SF ✓RT 4,8 km ÷ 5km/h = time/*tyd* ✓CA time/*tyd* = 0,96 hours/*ure* ≈ 57 ✓C min INVALID/ *NIE GELDIG NIE* ✓O	1RT walking time/ *stap tyd* 1A time in hours/*tyd in ure* 1SF substitution/ *vereenvoudiging* 1CA simplification/ *vereenvoudiging* 1O conclusion/ *gevolgtrekking* **OR/*OF*** 1RT walking time/*stap tyd* 1C time in hours/*tyd in ure* 1SF substitution/ *invervanging* 1CA simplification /*vereenvoudiging* 1O conclusion/*gevolgtrekking* **OR/*OF*** 1RT walking time/*stap tyd* 1C time in hours/*tyd in ure* 1SF substitution/ *invervanging* 1CA simplification /*vereenvoudiging* 1O conclusion/*gevolgtrekking* **OR/*OF*** 1RT walking time/*stap tyd* 1SF substitution/ *invervanging* 1CA simplification /*vereenvoudiging* 1C time in hours/*tyd in ure* 1O conclusion/*gevolgtrekking* (5)	Maps L4 M

4.1.3	$\frac{165\text{ cm}}{100} = 1{,}65\ m$ ✓A $\frac{87\text{ kg}}{1{,}65 \times 1{,}65} = 31{,}95592287\text{ kg/m}^2$ ✓SF ✓CA Obese / *Vetsig* ✓A	1A height in meters/*hoogte in m* 1SF substitution squaring height/ *invervanging vierkant hoogte* 1CA simplification/ *vereenvoudiging* 1A correct weight status / *korrekte gewig status* (4)	Maps L3 M
4.2.1	Length /*Lengte* 200 – 25 – 25 = 150 cm ✓MA ✓CA Width / *Breedte* ✓MA 200 cm – 15cm – 35 cm – 12 cm – [(15mm ÷10) × 3] = 133,5 cm ✓C ✓CA Area ✓SF 150 cm × 133,5 cm = 20 025 cm^2 ✓CA **OR/*OF*** 200 – (25 × 2) ✓MA = 150 cm ✓CA Width / *breedte* ✓MA 200 cm – 15cm – 35 cm – 12 cm – 1,5 cm – 1,5 cm – 1,5 cm ✓MA = 133,5 cm ✓CA Area /*Oppervalkte* 150 cm × 133,5 cm ✓SF = 20 025 cm^2 ✓CA	1MA subtracting correct values/ *trek die korrekte waardes af* 1CA correct length /*korrekte lengte* 1MA subtracting correct values/ *trek korrekte waardes at the* 1C convert from mm to cm and multiply by 3/ *Skakel om van mm na cm en maal met 3* 1CA correct width/*korrekte breedte* 1SF substitution/ *invervanging* 1CA simplification/ *vereenvoudiging* **OR/*OF*** 1MA subtracting correct values/ *aftrek van korrekte waardes* 1CA correct length/*korrekte lengte* 1MA subtracting correct values/ *aftrek van korrekte waardes* 1MA subtract all 1,5 cm values / *aftrek van al die 1,5cm waardes* 1CA correct width/ *korrekte breedte* 1SF substitution/ *invervanging* 1CA simplification/ *vereenvoudiging* (7)	M L3 M

4.2.2	✓C 65,4 inches × 2,54 = 166,116 cm ✓A 36,8 inches × 2,54 = 93,472 cm ✓A ✓MA Area/*Oppervlakte* = 166,16 cm × 93,472 cm = 15 527,19 cm^2 **OR/*OF*** Area/Oppervlakte ✓MA ✓A =65,4 × 38,6 = 2 406,72 inches^2/*duim*^{2} 2 406,72 × 2,54 ✓C ^{2} = 15 527,19 cm^2 ✓A	1C length to cm/*lengte na cm* 1A length in cm/*lengte na cm* 1A height in cm/*lengte na cm* 1MA multiply correct values/ *vermenigvuldig correcte waardes* **OR/*OF*** 1MA multiply correct values/ *vermenigvuldig correcte waardes* 1A Area in inch^2/*Oppv in duim*^{2} 1C area to cm^2/oppv *na cm*^{2} 1A Area in cm^2/*Oppv in cm*^{2} (4)	M L2 M
4.2.3	Bottom brown board/*onderste bruin plank* ✓SF ✓A 200 cm × 30 cm × 1,5 cm = 9 000 cm^3 Top brown board /*boonste bruin plank* ✓A 200 cm × 15 cm × 1,5 cm = 4 500 cm^3 9 000 cm^3 + 4 500 cm^3 = 13 500 cm^3 ✓CA ✓C 13 500 cm^3 ÷ 100^3 = 0,0135 m^3 ✓CA **OR/*OF*** ✓C 2 m × 0,30 m × 0,015 cm = 0,009 m^3 ✓A Top brown board /*boonste bruin plank* ✓SF 2 m × 0,15 m × 0,015 cm = 0,0045 m^3 ✓A ✓MCA 0,009 m^3 + 0,0045 cm^3 = 0,0135 m^3 ✓CA	1SF 1st substitution/*invervanging* 1A 1st volume/1ste volume 1A 2nd volume/2de *volume* 1MA total volume/*totale volume* 1C convert to m^3/*omskakeling na m*^{3} 1CA simplification/ *vereenvoudiging* **OR/*OF*** 1C convert to m/*omskakel na m* 1SF substitution/*invervanging* 1A bottom volume/*onderste volume* 1A top volume/*top volume* MCA adding correct values/*tel korrekte waardes op* 1CA simplification/ *vereenvoudiging* (6)	M L3 M

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T/L
5.1.1	$48 \times 1000 = 48\,000$ kg ✓C 48 000 kg – 10 000 kg – (13 600 × 2) ✓MA = 10 800 kg ✓CA 10 800 × 3 000 ✓MCA = 32 400 000 kg ✓CA 32 400 000 kg ÷ 1 000 32 400 tonnes/*ton* ✓CA CORRECT/*KORREK* ✓O **OR/*OF*** 10 000 kg ÷ 1 000 = 10 t ✓C 13 600 ÷ 1 000 = 13,6 t ✓MA 10 t + 13,6 ton + 13,6 t = 37,2 t ✓MCA ✓CA 48 t – 37,2 t = 10,8 t ✓MCA 10,8 t × 3 000 = 32 400 tonnes/*ton* ✓CA CORRECT /*KORREK* ✓O	1C weight in kg/*gewig in kg* 1MA subtracting correct values and multiply 13 600 by 2/*trek korrekte waares en vermenigvuldit 13600 by 2* 1CA weight of coal in kg/ *gewig van die kool in kg* 1MCA multiply by 3 000/ *vermenigvuldig met 3000* 1CA total weight/*totale gewig* 1CA simplification/ *vereenvoudiging* 1O conclusion/ *gevolgtrekking* **OR/*OF*** 1C kg to tonnes/*kg na ton* 1MA adding correct values /*tel korrekte waardes op* 1MCA subtract correct values from 48 t/ *trek die korrekte waardes af van 48t* 1CA weight of coal in tonnes/ *gewig van kool in ton* 1MCA multiply by 3 000/ *vermenigvuldig met 3000* 1CA simplification / *vereenvoudiging* 1O conclusion/ *gevolgtrekking* (7)	M L3 M

5.1.2	✓MA $\frac{205\ 000}{32\ 400} = 6{,}327$ ≈ 7 days/*dae* ✓CA CORRECT /*KORREK* ✓O **OR/*OF*** $\frac{205\ 000}{7}$ ✓MA ✓CA $= 29\ 285{,}711428$ needed per day *(nodig per dag)* CORRECT /*KORREK* ✓O **OR/*OF*** ✓MA ✓CA *7× 32 400 = 226 800* ✓O CORRECT /*KORREK*	**CA from 5.1.1/*CA van 5.1.1*** 1MA divide correct values / *deel korrekte waardes* 1CA simplification/ *vereenvoudig* 1O conclusion/ *gevolgtrekking* **OR/*OF*** 1MA divide correct values / *deel korrekte waardes* 1CA simplification/ *vereenvoudig* 1O conclusion/ *gevolgtrekking* **OR/*OF*** 1MA multiply with correct values / *maal met korrekte waardes* 1CA simplification/ *vereenvoudig* 1O conclusion/ *gevolgtrekking* (3)	M L4 M
5.2	1 200 tonnes/*ton* ×1 000 ✓MA = 1 200 000 kg × 1 000 ✓C 1 200 000 000 grams volume = mass/*massa* ÷ density/*digtheid* ✓S capacity/*kapasiteit* ✓SF = 1 200 000 000 g ÷ 1,1 g/cm^3 1 090 909 091 cm^3 ✓CA $\frac{1\ 090\ 909\ 091}{1\ 000\ 000}$ ✓C $= 1\ 090{,}909091\ m^3$ ✓CA	1A mass in kg/*massa in kg* 1C kg to grams./*kg na gram* 1S change of subject/ *verander die onderwerp* 1SF substitution/ *invervanging* 1CA capacity in cm^3/*kapasiteit in cm^3* 1C convert to m^3 /*omskakeling na m^3* 1CA simplification/ *vereenvoudiging* **NPR** (7)	M L3 M

5.3.1	4 ✓✓RT	2RT correct number/ *korrekte getal* (2)	Maps L1 E
5.3.2	6:00 to 18:00 = 12 hours/*ure* ✓A ✓MA 12 hours × 7 days/*dae* = 84 hours/*ure* × 60 = 5 040 min ✓C **OR/*OF*** 06:00 to 18:00 =12 hours/*ure* ✓A 12 × 60 ✓C 720 minutes × 7 days ✓MA = 5 040 minutes	1A hours per day/aantal ure *per dag* 1MA multiply by 7/ *vermenigvuldig met 7* 1C convert to minutes / *omskakeling na minute* **OR/*OF*** 1A hours per day/ *aantal ure per dag* 1C convert to minutes/ *omskakeling na minute* 1MA multiply by 7 days / *vermenigvuldiging met 7 dae* (3)	Maps L2 E
5.3.3	Ecology/ Ekologie ✓✓A **OR/*OF*** ✓✓A Envirnomental science/ *Omgewingswetenskap* **OR/*OF*** Plant biology/ Plantbiologie ✓✓A **OR/*OF*** ✓✓A Nature conservation/ *Natuurbewaring* **OR/*OF*** Forestry/ *Bosbou* ✓✓A **OR/*OF*** ✓✓A Biodiversity/ Biodiversiteit **OR/*OF*** Any relevent course that has to do with nature, plants & animals ./ Enige relevante kursus wat met natuur, plante en diere te doen het, .	2A correct coarse/ *korrekte kursus* (2)	Maps L4 D

5.3.4 (a)	Eagle-owl ✓✓RT	2RT correct name / *korrekte naam* (2)	Maps L2 E
5.3.4 (b)	Part of the road is a foot path./ *Gedeelte van die pad is 'n voetpaaie* ✓✓A	2A correct reason / *korrekte rede* (2)	Maps L4 M
5.4	✓MA 112 507 × 127,6% = 143 558,932 people/*mense* ✓A ✓MA 143 558,932 people/*mense* ÷ 52,39 km^2 ✓CA = 2 740 people / km^2 /*mense /km^2* INCORRECT/*NIE KORREK NIE* ✓O **OR/*OF*** 112 507 × 27,6% ✓MA = 31 051,932 112 507 + 31 051,932 = 143 558,932 people/*mense* ✓A ✓MA 143 558,932 people/*mense* ÷ 52,39 km^2 ✓CA = 2 740 people / km^2 /*mense /km^2* INCORRECT/*NIE KORREK NIE* ✓O **OR/*OF*** 112 507 × 1,276 = 143 558,932 people/*mense* ≈ 143 559 ✓A ✓MA 143 559 people/*mense* ÷ 52,39 km^2 = 2 740,1985 people / km^2 /*mense /km^2* ✓CA INCORRECT/*NIE KORREK NIE* ✓O	1MA calculate 127,6% /*bereken* 127,6% 1A population in 2025/ *bevolking in 2025* 1MA divide correct values/ *deel korrekte waardes* 1CA simplification/ *vereenvoudiging* 1O conclusion/ *gevolgtrekking* **OR/*OF*** 1MA calculate 27,6%/ *bereken 27,6%* 1A population in 2025/ *bevolking in 2025* 1MA divide correct values/ *deel korrekte waardes* 1CA simplification/ *vereenvoudiging* 1O conclusion/ *gevolgtrekking* **OR/*OF*** 1MA calculate 1,276/*bereken* 1,276 1A population in 2025/ *bevolking in 2025* 1MA divide correct values/ *deel korrekte waardes* 1CA simplification/ *vereenvoudiging* 1O conclusion/ *gevolgtrekking* **Accept/*Aanvaar:* 2 741** (5)	M L4 M

2.1.4	If: 7 & 8 only mentioned	0 marks
4.1.2	If : $\frac{4{,}8\ \text{km}}{1\ h\ 7\ min} = 4{,}29\ km/h$ INVALID/*NIE GELDIG NIE*	5 Marks (Full marks)
5.1.2	$\frac{205\,000}{32\,400} = 6{,}327$ ≈ 6 days/*dae* INVALID /NIE *KORREK NIE*	Max 2 marks
5.1.2	$\frac{205\,000}{30\,000} = 6{,}833$ ≈ 7 days/*dae* CORRECT /*KORREK*	Max 2 marks