basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

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

MATHEMATICAL LITERACY P2/*WISKUNDIGE GELETTERDHEID V2*

MAY/JUNE/*MEI/JUNIE* 2026

MARKING GUIDELINES/*NASIENRIGLYNE*

MARKS/*PUNTE*: 150

Symbol/*Kode*	Explanation/*Verduideliking*
MA	Method with accuracy/*Metode met akkuraatheid*
MCA	Method with consistent 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 'n formule*
O	Opinion/Explanation/*Opinie/Verduideliking*
P	Penalty, e.g. for no units, incorrect rounding off, etc./*Penalisering, bv. vir geen eenhede, verkeerde afronding, ens.*
NPR	No penalty for correct rounding/*Geen penalisering vir korrekte afronding nie*
NPU	No penalty for omitting unit, but wrong unit is penalised/*Geen penaliseringe indien die eenheid uitgelos is nie, maar wel indien 'n verkeerde eenheid gebruik word.*
AO	Answer only/*Slegs antwoord*

These marking guidelines consist of 16 pages./
Hierdie nasienriglyne bestaan uit 16 bladsye.

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NOTE:
- 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.
- 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.
- General principle of marking, if the candidate makes one mistake one mark is deducted.
- A conclusion mark can only be given if $\frac{1}{3}$ 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 egter op by die tweede berekeningsfout.*
- *Wanneer 'n kandidaat aflesings vanaf 'n grafiek,, tabel, uitlegplan en kaart aanbied en ekstra antwoorde gee, penaliseer vir elke ekstra item.*
- *Afronding tel as 'n afsonderlike punt.*
- *Die algemene beginsel van nasien is, as 'n leerder een fout maak, word een punt afgetrek.*
- *'n Gevolgtrekkingspunt kan slegs gegee word indien $\frac{1}{3}$ van die totale punte vir die subvraag toegeken is.*
- *Geen penalisering vir afronding (NPR) nie as die eerste desimaal korrek is.*

QUESTION/*VRAAG* 1 [30 MARKS/30 *PUNTE*] ANSWER ONLY FULL MARKS			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
1.1.1	✓✓ A Metric system/*Metrieke stelsel*	2A correct concept (2)	M L1 E
1.1.2	✓✓ A Strip chart/*Strookkaart*	2A correct concept (2)	MP L1 E
1.1.3	✓✓ A Layout plan/*Uitlegplan*	2A correct concept (2)	MP L1 E
1.1.4	✓✓ A Probability/*Waarskynlikheid*	2A correct concept (2)	P L1 E
1.1.5	✓✓ A Diameter / *Middellyn*	2A correct concept (2)	M L1 E
1.2.1	7 ✓✓ RT	2RT reading from table (2)	M L1 E
1.2.2	50% ✓✓RT Saturday/*Saterdag* **OR/*OF*** SAT./*SA.* ✓RT	2RT percentage 1RT day (3)	P L1 E

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
1.2.3	✓✓RT Wednesday/*Woensdag* **OR/*OF*** WED. /*WO*	2RT reading from table (2)	M L1 E
1.2.4	✓MA 1,3 mm + 1,4 mm + 18 mm = 20,7 mm ✓A	1MA addition of values 1A simplification (2)	M L1 E
1.2.5	✓A ✓A Seven minutes to three in the afternoon *Sewe minute voor drie in die middag* ✓A **OR/*OF*** Fifty-three minutes past two p.m. ✓A *Drie en vyftig minute na twee n.m.*	 1A correct words 1A afternoon (2)	M L1 E
1.3.1	✓✓A Elevation map *Hoogtekaart*	2A correct concept (2)	MP L1 E
1.3.2	1 750 m ✓✓RT	2RT reading from map **[Accept answers more than 1700 m but less than 1780 m]** (2)	MP L1 E
1.3.3	D ✓✓RT	2RT reading from map (2)	MP L1 E
1.3.4	✓RT ✓RT 16 km – 5 km = 11 km ✓A	1RT 16 km 1RT 5 km 1A simplification **[Accept 10,8 – 11,2]** (3)	MP L1 M
		[30]	

QUESTION 2 [28 MARKS/*28 PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
2.1.1	✓✓ A Bar scale/*Staafskaal*	2A bar scale (2)	MP L1 E
2.1.2	R37 ✓✓ RT	2RT correct number (2)	MP L1 E
2.1.3	Hazyview ✓✓ A	2A correct destination (2)	MP L2 M
2.1.4	14 ✓✓ RT	2RT correct number (2)	MP L1 M
2.1.5	✓A Scale/*Skaal* 33 mm = 6 km ✓A Map distance/*Kaartafstand* 83 mm Real distance/*Werklike afstand* $= \frac{83}{33} \times 6$ km ✓MA = 15,09… km ✓CA ≈ 15 km ✓R ✓A **OR/*OF*** Scale/*Skaal* 11 mm = 2 km Map distance/*Kaartafstand* 83 mm ✓A Real distance/*Werklike afstand* $= \frac{83}{11} \times 2$ km ✓MA = 15,09… km ✓CA ≈ 15 km ✓R ✓A **OR/*OF*** 3,3 cm = 6 km 3,3 cm = 600 000 cm 1 : 181 818,18181 ✓A ✓MA 8,1 cm × 18 181,818181 = 1 472 727,272 cm = 14,7 km ✓CA ≈ 15 km ✓R	1A measured scale 1A map distance 1MA using the ratio 1CA simplification 1R correct rounding **OR/*OF*** 1A measured scale 1A map distance 1MA using the ratio 1CA simplification 1R correct rounding **OR/*OF*** 1A measured scale 1A map distance 1MA using the ratio 1CA simplification 1R correct rounding (5)	MP L3 M

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
2.2.1	11 ✓✓ A	2A correct number (2)	MP L1 E
2.2.2	Number on lawn/*Getal op grasperk* ✓ MA ✓ RT = 16 000 – (5 500 + 3 500) = 7 000 ✓ CA	 1MA subtracting 1RT correct values (at least 2) 1CA simplification (3)	MP L2 E
2.2.3	NW **OR/*OF*** North-west/*Noordwes* ✓✓ A	2A correct direction (2)	MP L2 M
2.2.4	Distance/*Afstand* ✓ RT $= \frac{100}{3} \times 91{,}44$ cm ✓ MA = 3 048 cm ✓ CA = 30,48 m ✓ C **OR/*OF*** 3 feet = 91,44 cm 1 foot = 30,48 cm ✓ RT 100 feet = 100 × 30,48 cm ✓ MA = 3 048 cm ✓ CA = 30,48 m ✓ C	 1RT 100 ft 1MA using the ratio 1CA simplification 1C conversion **OR/*OF*** 1RT 100 ft 1MA using the ratio 1CA simplification 1C conversion (4)	MP L2 D
2.2.5	Last row in ZZ/*Laaste ry in ZZ* ✓ MA = 20 + 23 ✓ RT = 43 ✓ CA INVALID / *NIE GELDIG NIE*✓ O	 1MA addition 1RT 23 1CA simplification 1O verification (4)	MP L4 M
		[28]	

QUESTION 3 [31 MARKS]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
3.1.1	✓MA D = (90 m – 40,3 m) ÷ 2 = 24,85 m ✓CA	1MA subtract and dividing by 2 1CA simplification **AO** (2)	M L2 E
3.1.2	Area of one penalty box/*Opp. van een doelgebied* = 40,3 m × 16,5 m ✓ SF = 664,95 m^2 ✓ A Area of soccer field/*Oppervlakte van sokkerveld* = 120 m × 90 m = 10 800 m^2 ✓ A Percentage/*Persentasie* = $\frac{664,95}{10\,800}$ ✓ MCA × 100% = 6,156944 % ✓ CA **OR/*OF*** Area of penalty box ÷ area of soccer field/ *Opp. van doelgebied ÷ opp. van sokkerveld* = $\frac{40,3\ m}{120\ m} \times \frac{16,5\ m}{90\ m}$ ✓ MCA ✓ SF Percentage/*Persentasie* = 0,335833… ✓ A × 0,18333 ✓ A × 100% = 6,156944% ✓ CA	1SF substitution 1A simplification 1A simplification 1MCA correct fraction 1CA simplification **OR/*OF*** 1MCA correct fraction 1SF substitution 1A simplification 1A simplification 1CA simplification **NPR** (5)	M L3 M
3.1.3	Perimeter/*Omtrek* = 2 × 120 m + 2 × 90 m ✓ SF = 420 m ✓ A Distance ran/*Afstand afgelê* = 10 × 420 m = 4 200 m ✓ CA = 4,2 km ✓ C INVALID/*NIE GELDIG NIE*. ✓ O **OR/*OF***	1SF substitution in formula 1A simplification 1CA multiplying correct values 1C conversion 1O conclusion **OR/*OF***	M L4 M

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
	Length distance for 10 laps/*Lengte-afstand vir 10 rondtes* = 120 m × 2 × 10 = 2 400 m ✓ A Width distance for 10 laps/*Breedte-afstand vir 10 rondtes* = 90 m × 2 × 10 = 1 800 m ✓ A Total distance/*Totale afstand* = 2 400 m + 1 800 m = 4 200 m ✓ CA ✓ C Distance in km/*Afstand in km* = 4 200 ÷ 1 000 = 4,2 km INVALID/*NIE GELDIG NIE* ✓ O **OR/*OF*** ✓ SF Perimeter/*Omtrek* = 2 × 120 m + 2 × 90 m = 420 m ✓ A Conversion to m/*Herleiding na m*: 4 km = 4 000 m ✓ C Distance for 1 lap/*Afstand vir 1 rondte* = 4 000 m ÷ 10 = 400 m ✓ CA INVALID/*NIE GELDIG NIE* ✓ O	1A correct values for length 1A correct values for width 1CA simplification 1C conversion 1O conclusion **OR/*OF*** 1SF substitution in formula 1A simplification 1C conversion 1CA dividing correct values 1O conclusion (5)	
3.2.1	P = $\frac{1}{18}$ ✓ A ✓ A ≈ 0,056 ✓ R	1A numerator 1A denominator 1R correctly rounded (3)	P L2 E
3.2.2	Diameter/*Middellyn* = 1,2 m × 2 = 2,4 m ✓ MA Total distance/*Totale afstand* = 3,142 × 2,4 m ✓ SF = 7,5408 m ✓ CA **OR/*OF*** ✓ MA Total distance/*Totale afstand* = 3,142 × 1,2 m × 2 ✓ SF = 7,5408 m ✓ CA	1MA calculate diameter 1SF correct substitution 1CA simplification **OR/*OF*** 1MA calculate diameter 1SF correct substitution 1CA simplification (3)	M L2 M
3.2.3	Direct/*Direkte* ✓✓ A	2A direct (2)	M L1 E

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
3.2.4 (a)	Radius = 5 m ÷ 2 = 2,5 m ✓ MA ✓ SF ✓C Volume = 3,142 × (2,5 m)^2 × 0,21 m = 4,123875 m^3	1MA radius 1SF substitution of radius 1C conversion to metres (3)	M L2 M
3.2.4 (b)	Litres per minute = 5 × 3,78541178 ✓ MA = 18,9270589 ℓ ✓ A Volume = 4,123875 m^3 × 1 000 = 4 123,875 ℓ ✓ C Number of minutes/*Aantal minute* = $\frac{4\ 123{,}875\ \ell}{18{,}9270589\ \ell/m}$ ✓MCA = 217,8825…min ✓ CA Time/*Tyd* = 217,8825…. ÷ 60 ✓ MCA = 3,63… ✓ CA = 3 hours/*uur* 38 minutes/*minute* ✓ R **OR/*OF*** Volume = 4,123875 m^3 × 1 000 = 4 123,875 ℓ ✓ C Number of gallons/*Aantal gellings* = $\frac{4\ 123{,}875}{3{,}78541178}$ ✓ MCA = 1 089,413844 ✓ CA Number of minutes/*Aantal minute* = 1 089,413844 ÷ 5 ✓ MA = 217,882…✓ CA ✓ MCA Time in hours and min/*Tyd in ure en min* = 217,882 ÷ 60 = 3,63… ✓ CA = 3 hours/*uur* 38 minutes/*minute* ✓ R **OR/*OF*** Number of litres/min/*Aantal liters/min* ✓ MA = 5 × 3,7841178 ℓ = 18,9270589 ℓ ✓ A Volume = 18,9270589 ℓ ÷ 1000 = 0,0189271 m^3 ✓ C Number of minutes/*Aantal minute* = $\frac{4\ 123{,}875}{0{,}0189271}$ ✓ MCA = 217,8825047 ✓ CA Time/*Tyd* = 217,8825047 ÷ 60 ✓ MCA ✓ CA ✓ R = 3 hours/*uur* 38 minutes/*minute*	1MA multiplication 1A simplification litres 1C conversion 1MCA division 1CA simplification 1MCA divide minutes by 60 1CA simplification 1R rounding of minutes **OR/*OF*** 1C conversion 1MCA dividing 1CA simplification 1MA division by 5 1CA simplification 1MCA divide minutes by 60 1CA simplification 1R rounding of minutes **OR/OF** 1MA multiplication 1A simplification litres 1C conversion 1MCA division 1CA simplification 1MCA divide minutes by 60 1CA simplification 1R rounding of minutes (8)	M L3 D
			[31]

QUESTION 4 [33 MARKS]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
4.1.1	Radius = $\frac{20}{2}$ mm ✓MA = 10 mm ✓A **OR/*OF*** 1 cm	1MA diameter by 2 1A simplification **AO** (2)	M L1 E
4.1.2	Height/*Hoogte* = 309 mm + 2(40 mm) ✓C ✓MA = 389 mm ✓CA ≈ 400 mm ✓R	1C convert to mm 1MA addition 1CA simplification 1R rounding (4)	M L2 M
4.1.3	Total surface area ONE cork /*Totale buite opp. EEN prop* = 2 × 3,142 × (10 mm)² + 2 × 3,142 × 10 mm × 43 mm ✓SF = 628,4 mm² + 2 702,12 mm² = 3 330,52 mm² ✓CA TSA for 3 layers on 53 corks /*BO vir 3 lae op 53 proppe* = 3 330,52 mm² × 53 × 3 ✓MCA ✓MCA = 529 552,68 mm² Convert to m²/*Herlei na m²* = 529 552,68 mm² ÷ 1 000 000 ✓C = 0,52955… m² Paint needed/*Verf benodig* : $\frac{0{,}52955\ m^2}{3\ m^2}$ × 1 = 0,176… ℓ ✓MCA ≈ 0,18 ℓ ∴ 0,18 ℓ × 1 000 = 180 mℓ ✓C Total cost/*Totale koste* = 2 × R55,00 = R110,00 ✓CA **OR/*OF***	**CA from 4.1.1** 1SF substitution in formula 1CA simplification 1MCA multiply by 53 1MCA multiply by 3 1C conversion to m² 1MCA divide by 3 to get the number of litres 1C conversion to mℓ 1CA simplification **OR/*OF***	M/F L3 D

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
	Total surface area ONE cork /*Totale buite opp. EEN prop* ✓SF SA = 2 × 3,142 × (1 cm)^2 + 2 × 3,142 × 1 cm × 4,3 cm = 33,3052 cm^2 ✓ CA ✓MC SA of 53 corks/*BO van 53 proppe* = 33,3052 cm^2 × 53 = 1 765,1756 Convert to m/*Herlei na m* = $\frac{1\,765,1756}{10\,000}$ ✓C = 0,17651756 m^2 Paint needed(1 coat)/*Verf benodig(1 laag)* 3 m^2 = 1 litre 0,17651756 m^2 = *x* litres $\frac{3x}{3} = \frac{0,17651756}{3}$ *x* = 0,0588391 litres ✓MCA Convert to mℓ/*Herlei na mℓ* = 0,0588391 × 1 000 = 58,8391 ✓ C ✓ MCA Total amount of paint/*Totale hoeveelh. verf* = 58,8391 × 3 = 176,51756 mℓ Number of cans of paint/*Aantal blikke verf* = 176,51756 mℓ ÷ 125 mℓ = 1,41214 ∴Total cost/*Totale koste* = 2 × R55 = R110 ✓CA **OR/*OF*** Total surface area ONE cork /*Totale buite opp. EEN prop* ✓ SF ✓ C = [2 × 3,142 × (0,01 m)^2] + 2 × 3,142 × 0,01 m × 0,043 m = 0,00333052 m^2 ✓CA ✓MCA TSA 53 corks/*TBO 53 proppe* = 0,00333052 m^2 × 53 × 3 = 0,52955268 m^2 ✓ CA Number of litres/*Aantal liters* = $\frac{0,52955268\ m^2}{3}$ ✓ MCA = 0,17651756 litres × 1 000 = 176,51756 mℓ ✓ C Number of cans/*Aantal blikke* = $\frac{176,51756\ ml}{125\ ml}$ = 1,412 Cost/*Koste* = 2 × R55 = R110 ✓ CA **OR/*OF***	1SF substitution in formula 1CA simplification 1MCA multiply by 53 1C conversion to m² 1MCA divide by 3 to get the number of litres 1C conversion to mℓ 1MCA multiply 3 1CA simplification **OR/*OF*** 1SF substitution in formula 1C conversion to m 1CA simplification 1MCA multiply by 53 and 3 1CA simplification 1MCA divide by 3 to get the number of litres 1C conversion to mℓ 1CA simplification **OR/*OF***	

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
	Total surface area ONE cork /*Totale buite opp. EEN prop* ✓SF $= 2 \times 3{,}142 \times (10 \text{ mm})^2 + 2 \times 3{,}142 \times 10 \text{ mm} \times 43 \text{ mm}$ $= 628{,}4 \text{ mm}^2 + 2\,702{,}12 \text{ mm}^2$ $= 3\,330{,}52 \text{ mm}^2$ ✓CA	1SF substitution in formula 1CA simplification	
	$= 3\,330{,}52 \div (1\,000)^2 = 0{,}00333052 \text{ m}^2$ ✓C	1C conversion to m²	
	TSA for 3 layers/*TBO vir 3 lae* $= 0{,}00333052 \text{ m}^2 \times 3$ $= 0{,}009992 \text{ m}^2$ ✓MCA	1MCA multiply by 3	
	TSA(53 corks)/*TBO(53 proppe)* $= 0{,}009992 \text{ m}^2 \times 53$ $= 0{,}52955\ldots \text{ m}^2$ ✓MCA	1MCA multiply by 53	
	Paint/*Verf*: 1 ℓ covers/*dek* 3 m² 1 tin/*blik* = 125 mℓ covers/*dek* $\frac{125 \text{ ml}}{1\,000 \text{ ml}} \times 3 \text{ m}^2$ ✓C $= 0{,}375 \text{ m}^2$ ✓MCA	1C conversion mℓ to ℓ 1MCA coverage for 3 m²	
	Number of cans/*Aantal blikke* $= \frac{0{,}52955 \text{ m}^2}{0{,}375 \text{ m}^2} = 1{,}41\ldots$		
	Total cost/*Totale koste* $= 2 \times \text{R}55{,}00$ $= \text{R}110{,}00$ ✓CA **OR/*OF***	1CA simplification **OR/*OF***	
	Radius = 10 mm $= \frac{10}{1\,000}$ m = 0,01 m Height/*Hoogte* = 43 mm $= \frac{43}{1\,000}$ m = 0,043 m ✓C	1C conversion to m	
	Total Surface Area/*Buite-oppervlake* ✓SF $= 2 \times 3{,}142 \times (0{,}01)^2 + 2 \times 3{,}142 \times 0{,}01\text{m} \times 0{,}043 \text{ m}$	1SF substitution in formula	
	$= 0{,}00333052 \text{ m}^2$ ✓CA	1CA simplification	
	Spread rate/*Spreikoers* $3m^2/\ \ell$ Number of litre/*Aantal liters* $= \frac{0{,}00333052m^2}{3m^2} \times 1$ ✓MCA $= 0{,}0011101733\ \ell$	1MCA divide by 3 to get the number of litres	
	3 layers/*3 lae* = 0,0011101733 litres × 3 ✓MCA = 0,0033305199 litres	1MCA multiply by 3	
	For 53 corks/*Vir 53 proppe* ✓C $= 0{,}0033305199 \times 1000 \text{ m}\ell \times 53$ ✓MCA $= 176{,}5176 \text{ m}\ell$	1C conversion to mℓ 1MCA multiply by 53	
	Total cost/*Totale koste* $= 2 \times \text{R}55$ $= \text{R}110$ ✓CA	1CA simplification (8)	

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
4.2	Inside width of board/*Binnebreedte van bord* = 37,2 cm – 2(4 cm) ✓MA = 29,2 cm ✓CA = 292 mm ✓C Length of 4 patterns/*Lengte van 4 patrone* = (43 mm + 20 mm) × 4 ✓MA = 63 mm × 4 = 252 mm ✓CA INVALID/*NIE GELDIG NIE* ✓O **OR/*OF*** Inside width of board/*Binnebreedte van bord* = 37,2 cm – 2(4 cm) ✓MA = 29,2 cm ✓CA Length of pattern/*Lengte van patroon* = 43 mm + 20 mm = 63 mm = 6,3 cm ✓C Number of repeats needed to complete the row/ *Getal patrone nodig om die ry te voltooi* $= \frac{29{,}2\ cm}{6{,}3\ cm}$ ✓MCA = 4,63 ✓CA INVALID/*NIE GELDIG NIE*. ✓O **OR/*OF*** ✓MA Board/*Bord*: 372 mm – 80 mm = 292 mm ✓CA Space needed for exactly 4 repeats/*Ruimte benodig om presies 4 keer te herhaal* ✓MCA = 292 mm ÷ 4 = 73 mm ✓CA Each pattern/*Elke patroon* = 43 mm + 20 mm = 63 mm ✓A INVALID/*NIE GELDIG NIE*. ✓O	 1MA subtraction 1CA simplification 1C conversion to mm 1MA multiplying by pattern 1CA simplification 1O opinion **OR/*OF*** 1MA subtraction 1CA simplification 1C conversion to cm 1MCA dividing by 6,3 1CA simplification 1O conclusion **OR/OF** 1MA subtraction 1CA simplification 1MCA dividing by 4 1CA simplification 1A simplification 1O conclusion (6)	MP L4 M
4.3.1	Number of lockers/*Aantal sluitkassies* = 12 × 5 ✓MA = 60 ✓A **OR/*OF*** Number of lockers/*Aantal sluitkassies* = 6 × 10 ✓MA = 60 ✓A	1MA multiplication 1A correct answer **OR/OF** 1MA multiplication 1A correct answer **AO** (2)	MP L1 E

<table>
<tr><th>Q/V</th><th>Solution/Oplossing</th><th>Explanation/Verduideliking</th><th>T&L</th></tr>
<tr><td>4.3.2</td><td>To store extra books/lunch boxes/small sport bags/ extra clothes or shoes/
Keep learners' possessions safe. ✓✓O
Om ekstra boeke/kosblikke/klein sportsakke/ekstra klere of skoene te stoor/
Hou besittings van leerders veilig.</td><td>2O reason

(ACCEPT ANY ONE)
(2)</td><td>MP
L4
E</td></tr>
<tr><td>4.3.3 (a)</td><td>Volume = L × w × h/Volume = L × b × h
32 400 cm^2 = 45 cm × B × 18 cm ✓SF
B = $\frac{32\ 400\ \text{cm}^3}{45\ \text{cm} \times 18\ \text{cm}}$ ✓MA
= 40 cm ✓CA</td><td>1SF substitution

1MA changing subj of formula
1CA simplification
(3)</td><td>M
L2
M</td></tr>
<tr><td>4.3.3 (b)</td><td>Total length of one stack/Totale lengte van een stapel
✓MCA ✓C
(2 × 40 cm) + 5,7 cm + (2,8 cm × 2)
= 91,3 cm ✓CA
Total length of a set/Totale lengte van 'n stel
✓MCA ✓MA
(91,3 cm × 5) + (4 × 0,2 cm)
= 456,5 cm + 0,8 cm
= 457,3 cm ✓CA
OR/OF
Length of one stack/ Lengte van een stapel
✓C ✓MCA
= 2(400 mm) + 2(28 mm) + 57 mm
= 913 mm ✓CA
Total length of a set/Totale lengte van 'n stel
= (913 mm × 5) + (4 × 2 mm) ✓MCA ✓MA
= 4 565 mm + 8 mm
= 4 573 mm ✓CA
OR/OF
Total lengths/Totale lengtes
<table><tr><td></td><td>In cm</td><td>In mm</td></tr><tr><td>A:</td><td>2,8 × 10 ✓C</td><td>28 ×10 ✓MCA</td></tr><tr><td>B:</td><td>40 × 10 ✓MCA</td><td>400 ×10 ✓C</td></tr><tr><td>C:</td><td>5,7 × 5 ✓MCA</td><td>57 × 5 ✓MCA</td></tr><tr><td>Space/Spasie:</td><td>0,2 × 4 ✓MA</td><td>2 × 4 ✓MA</td></tr></table>✓MCA
Total/Totaal = 400 cm + 28 cm + 28,5 cm + 0,8 cm
= 457,3 cm ✓CA
OR/OF ✓MCA
Total/Totaal = 4000 mm + 280 mm + 285 mm + 8 mm
= 4 573 mm ✓CA</td><td>CA from 4.3.3 (a)

1MCA multiply by 2
1C conversion to cm
1CA length in cm

1MCA multiplication
1MA adding in between spaces
1CA simplification
OR/OF

1C conversion to mm
1MCA multiply by 2
1CA length in cm

1MCA multiplication
1MA adding in between spaces
1CA simplification
OR/OF

1C conversion to cm
1MCA multiply by 10
1MCA multiply by 5
1MA spaces in between

1MCA adding
1CA simplification
OR/OF
1MCA adding
1CA simplification
(6)</td><td>M
L2
D</td></tr>
<tr><td></td><td></td><td>[33]</td><td></td></tr>
</table>

QUESTION 5 [28 MARKS]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
5.1.1	2 Feb ✓✓RT	2RT correct date (2)	M L1 M
5.1.2	Highest wave – Lowest wave/*Hoogste golf – laagste golf* ✓RT ✓RT = 2,27 m – 0,09 m = 2,18 m ✓CA	1RT 2,27 1RT 0,09 1CA simplification (3)	M L2 M
5.1.3	Time duration/*Tydsduur*: 06:46 to 17:25 ✓RT 06:46 to/*tot* 07:00 14 minutes/*minute* 07:00 to/*tot* 12:00 5 hours/*uur* ✓MA 12:00 to/*tot* 17:25 5 hours/*uur* 25 minutes/*minute* ✓CA Total time = 10 hours and 39 minutes *Totale tydsduur = 10 uur 39 min* INCORRECT/*NIE KORREK NIE*. ✓O **OR/*OF*** Sunset time/*Sonsondergangstyd* ✓RT = 6:46 + 10 hours/*uur* 48 min = 16:46 + 48 min ✓MA = 17:34 ✓CA INCORRECT/*NIE KORREK NIE*. ✓O **OR/*OF*** From/*Vanaf* 06:46 to/*tot* 17:25 Duration/*Tydsduur* = 17h25 – 06h46 ✓R = (17 × 60 min + 46 min) – (6 × 60 min + 25) = 1 045 min – 406 min $= \frac{639 \text{ min}}{60}$ ✓MA = 10 hours and 39 min ✓CA INCORRECT/*NIE KORREK NIE* ✓O **OR/*OF*** 6:46 am to 5:25 pm = 17:25 ✓RT ∴ 17: 25 − 6: 46 ✓MA ✓CA = 10 hours 39 minutes / *10 ure 39 min* INCORRECT/*NIE KORREK NIE* ✓O	1RT reading correct values 1MA finding duration 1CA simplification 1O conclusion **OR/*OF*** 1RT reading correct values 1MA adding duration 1CA simplification 1O comparison **OR/*OF*** 1RT reading correct values 1MA finding duration 1CA simplification 1O conclusion **OR/*OF*** 1RT reading correct values 1MA finding duration 1CA simplification 1O conclusion (4)	M L4 M

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
5.2.1	4 ✓✓A	2A correct number of airports (2)	MP L2 E
5.2.2 (a)	Length of the bar scale/*Lengte van staafskaal*: = 20 mile/*myl* ÷ 0,621371 ✓C = 32,1868… ≈ 32,2 km ✓CA **OR/*OF*** Scale in km/*Skaal in km* 3,5 cm = 20 miles/*myl* ÷ 0,621371 ✓C 3,5 cm = 32,18688…. ✓CA 1 cm : 9,1962……km ≈ 1 cm : 9 km **OR/*OF*** 1km = 0,621371 miles/*myl* 1 ÷ 0,623171 = 1,6093444 Length of the bar scale/*Lengte van staafskaal*: 1,609344498 × 20 ✓C = 32,186888 ≈ 32,2 km ✓CA	1C convert to km 1CA simplification **OR/*OF*** 1C convert to km 1CA simplification **OR/*OF*** 1C convert to km 1CA simplification (2)	M L2 E
5.2.2 (b)	✓A 35 mm is 32,2 km 65 mm is *n* km $n = \frac{65}{35} \times 32{,}1868$ ...✓MCA = 59,7756… km ≈ 59,8 km ✓CA VALID/*GELDIG* ✓O **OR/*OF*** If 5.5.2(a) scale is 1 cm : 9,196254… ✓CA *Indien 5.5.2(a) skaal 1 cm : 9,196254…is* Distance/*Afstand* = 6,5 cm × 9,196254…✓MCA = 59,77…✓CA VALID/*GELDIG* ✓O	**CA from 5.2.2(a)** 1A measured distance 1MCA using the scale 1CA simplification 1O conclusion **OR/*OF*** 1CA measured distance from 5.2.2(a) 1MCA using the scale 1CA simplification 1O conclusion **[Accept 33 mm – 36 mm]** **[Accept 58 km – 64 km]** (4)	MP L4 M

Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
5.3.1	Time /*Tyd* : 08:50 to/*tot* 9:21 ✓RT = 31 min ✓A Distance = Speed × Time/*Afstand = Spoed × Tyd* 21,3 miles/*myl* = Speed/*Spoed* × 31 min ✓SF ✓C 21,3 miles/*myl* = Speed/*Spoed* × 0,5166666… hours Speed in miles/hour/*Spoed in myl/uur* $= \frac{21,3}{0,516666667}$ = 41,22581 ✓CA	 1RT correct times 1A duration 1SF substitution 1C conversion to hours 1CA simplification (5)	M L3 M
5.3.2	✓RT 25 miles/*myl* = 1 gallon/*gelling* ✓MA 21,3 miles × 0,04 gallon per mile = 0,852 gallons Total cost of fuel/*Brandstofkoste* ✓RT = 0, 852 × \$4,757 ✓MA = \$4,05 ✓CA CORRECT/*KORREK*. ✓O **OR/*OF*** Fuel cost/*Brandstofkoste* \$4,757 per gallon /*gelling* SUV uses/*verbruik* 25 mpg ✓RT ✓RT Cost for/*Koste vir* 25 mile/*myl* = \$4,757 ✓MA ∴ 21,3 miles/*myl* = *n* $n = \frac{21,3}{25}$ × \$4,757 ✓MA ≈ \$4,05 ✓CA CORRECT/*KORREK*. ✓O	1RT correct value 25 mpg 1MA number of gallons 1RT price per gallon 1MA multiply gallons with cost 1CA simplification 1O conclusion **OR/*OF*** 1RT price per gallon 1RT correct value 25 mpg 1MA number of gallons $\frac{21,3}{25}$ 1MA multiplication 1CA simplification 1O conclusion (6)	M L4 D
		[28]	
		TOTAL: 150	

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