basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE/ *NASIONALE SENIOR SERTIFIKAAT*

GRADE/*GRAAD* 12

MATHEMATICAL LITERACY P2/ *WISKUNDIGE GELETTERDHEID V2*

NOVEMBER 2024

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 17 pages.
Hierdie nasienriglyne bestaan uit 17 bladsye.

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 [26 MARKS/*26 PUNTE*] ANSWER ONLY FULL MARKS			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
* 1.1.1	D ✓✓ A	2A correct option (2)	M L1 E
* 1.1.2	E ✓✓ A	2A correct option (2)	MP L1 E
* 1.1.3	C ✓✓ A	2A correct option (2)	M L1 E
* 1.1.4	G ✓✓ A	2A correct option (2)	M L1 E
1.2.1	220 mm ÷1 000 = 0,22 m ✓ MA ✓ A	1MA ÷ 1 000 1A conversion (2)	M L1 E
* 1.2.2	A ✓✓ A	2A correct option. (2)	M L1 M
* 1.2.3	Number of bricks / *Aantal stene* = 2 860 mm ÷ 220 mm ✓RT ✓MA = 13 ✓A	1RT correct values 1MA dividing 1A number of bricks (3)	M L1 M

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
* 1.3.1	18 ✓✓A	2A correct number (2)	MP L1 E
* 1.3.2	Number of cross pieces / *Getal dwarsstutte* ✓RT = 6 × 3 ✓A = 18 ✓A	1RT 6 1A multiply by 3 1A pieces (3)	MP L1 M
* 1.3.3	Chair support / *Rugleuningbalk* ✓✓RT	2RT correct option (2)	MP L1 E
1.3.4	1,9 cm ✓✓A	2A correct dimension **NPU** (2)	MP L1 E
1.3.5	Space between cross pieces:/*Opening tussen dwarsstutte:* ✓ RT Space/*Opening* = 1,27 × 10 mm = 12,7 mm ✓ MCA	1RT correct value 1MCA simplification **NPU** (2)	MP L1 E
		[26]	

QUESTION 2 [31 MARKS/*31 PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
2.1.1	View from the top. ✓✓ A *Aansig van bo.* **OR/*OF*** View of the landscape from a certain height above ground like from a satellite or drone. ✓✓ A *Aansig van die landskap vanaf 'n seker hoogte bo die grond soos vanaf 'n satelliet of hommeltuig.* **OR/*OF*** View from an elevated height. ✓✓ A *Aansig vanaf 'n verhewe hoogte.* **OR/*OF*** Birds-eye view. ✓✓ A *Voëlperspektief.*	2A correct explanation (2)	MP L1 E
2.1.2	Number of campers/*Getal kampeerders* ✓RT ✓MCA = 6 +15 + 4 + 15 + 4 + 4 + 5 + 15 + 8 + 10 + 6 + 6 + 20 = 118 ✓CA **OR/*OF*** Number of campers/*Getal kampeerders* =20 + 15(3) + 10 + 8 + 6(3) + 5 + 4(3) ✓RT ✓MCA = 118 ✓CA	1RT all correct values 1MCA adding values 1CA simplification **AO** **OR/*OF*** 1RT all correct values 1MCA adding values 1CA simplification **AO** (3)	MP L1 E
2.1.3	South West/SW/*Suidwes SW* ✓✓A	2A compass direction (2)	MP L1 E
* 2.1.4	2 ✓✓O	2O identifying correct site (2)	MP L2 M
2.1.5	$\frac{3}{13}$ ✓A $\times 100\%$ ✓A = 23,076923% ✓CA	1A correct numerator 1A correct denominator 1CA simplification **NPR** (3)	P L2 D
2.1.6 (a)	9 showers/*storte* ✓✓A	2A correct number (2)	MP L1 E

Q/V	**Solution/Oplossing**	Explanation/Verduideliking	T&L
* 2.1.6 (b)	✓A 90 mm = 8,2 m ✓C 90 mm = 8 200 mm (÷ 90) ✓M 1 : 91,11 1 : 91 ✓R **OR/OF** ✓A 9 cm : 8,2 m 9 cm : 820 cm ✓C = 1 : 91,11.. ✓M = 1 : 91 ✓R **Accept ± 1 mm deviation on measurement per province** ***Aanvaar ± 1* mm-*afwyking op meting per provinsie***	1A measured distance 1C convert to mm 1M divide by 90 1R rounded answer **OR/OF** 1A measured distance 1C convert to cm 1M divide by 9 1R rounded answer (4)	MP L2 M
2.1.6 (c)	To allow people to sit while waiting for a toilet or shower to become available. ✓✓O *Vir mense om op te sit terwyl hulle wag dat 'n toilet of stort beskikbaar word.* **OR/OF** To place your clothes or belongings on while you are showering. *Om jou klere of besittings neer te sit terwyl jy stort.* **OR/OF** To sit while you change your outfit, or getting dressed or apply body lotion or for baby nappy change. *Om op te sit terwyl jy jou uitrusting verander of terwyl jy aantrek of lyfroom aansmeer of babadoeke verander*.	2O reason (2)	MP L4 M
2.2.1	Day 2 / *Dag 2* ✓✓A	2A correct description (2)	MP L2 E
* 2.2.2	D ✓✓RT	2RT correct option (2)	MP L2 M
* 2.2.3	12,5 km ✓✓RT	2RT correct distance (2)	MP L2 E

Q/V	**Solution/Oplossing**	Explanation/Verduideliking	T&L
2.2.4	The part shows a continuous downward slope, it is downhill. ✓✓O *Die part het 'n aaneenlopende afwaartse helling getoon, dit is afdraand.* **OR/*OF*** That part does not have many uphills. *Daardie deel het nie baie opdraandes nie.*	2O correct explanation (2)	MP L4 E
* 2.2.5	Difference in height/*Verskil in hoogte* ✓RT ✓RT Difference/*Verskil* = 1 050 m – 900 m = 150 m ✓O He is CORRECT. / *Hy is KORREK*	1RT 1st correct value 1RT 2nd correct value 1O conclusion (3)	MP L4 M
			[31]

QUESTION/*VRAAG* 3 [31 MARKS/*PUNTE*]			
Q/V	**Solution/Oplossing**	**Explanation/Verduideliking**	**T&L**
* 3.1.1	✓MA = 14:13 − 12:55 ✓A = 1 hour 18 minutes/*1 uur 18 minute* OR/OF 78 minutes OR/OF 1,3 hours/*uur*	1MA subtracting time 1A simplification [**1hr18min**] **AO** (2)	M L2 M
* 3.1.2	Total height of 4 pillows/*Totale hoogte van 4 kussings* = 11 cm × 4 ✓MA = 44 cm ✓CA Difference/*Verskil* ✓RT = 48 cm − 44 cm = 4 cm ✓CA **OR/*OF*** ✓RT ✓MA ✓MA Difference = 48 cm – 11 cm – 11cm – 11 cm – 11 cm = 4 cm ✓CA	1MA multiplying by 4 1CA simplification 1RT height 1CA simplification **OR/*OF*** 1RT height 1MA subtracting 11 cm 1MA subtracting all the 11's 1CA simplification **AO** (4)	M L2 E
3.1.3	Perimeter = 2 (length + width)/ *Omtrek = 2 (lengte + breedte)* Perimeter/*Omtrek* = 2 (46 cm + 30 cm) ✓SF = 2 (76 cm) = 152 cm ✓CA Total length for 4 bags/*Totale lengte vir 4 sakke* = 152 × 4 ✓MA = 608 cm $= \frac{608\ cm}{100}$ = 6,08 m ✓C ✓R ∴ she must buy 6,5 m/ *Sy moet 6,5* m *koop* **OR/*OF***	1SF correct substitution 1CA simplification 1MA multiply by 4 1C simplification 1R correct rounding **OR/*OF***	M L3 M

Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
	30 cm ÷ 100 = 0,3 m 46 cm ÷ 100 = 0,46 m ✓C Perimeter/O*mtrek* = 2(0,3 m + 0,46 m) ✓SF = 1,52 m ✓CA Total / T*otaal* = 1,52 m × 4 ✓MCA = 6,08 m ✓R ∴ she must buy 6,5 m/ *Sy moet 6,5* m *koop* **OR/*OF*** **Using ½ metre lengths/ Gebruik ½ metre lengtes** Perimeter/*Omtrek* = 2 (46 cm + 30 cm) ✓SF = 152 cm ✓CA Total length for 4 bags / *Totale lengte vir 4 sakke* = 152 × 4 ✓MA = 608 cm ½ m = 50 cm ✓ C Number of half metre lengths / *Getal half-meter lengtes* = 608 cm ÷ 50 cm = 12,16 ≈ 13 ✓ R	1C metre 1SF correct substitution 1CA simplification 1MCA multiply by 4 1R correct rounding **OR/*OF*** 1SF correct substitution 1CA simplification 1MA multiply by 4 1C to centimetre 1R correct rounding (5)	
* 3.2.1	Circumference / *Omtrek* ✓ SF = 3,142 × 8 cm = 25,136 cm ✓ A	1SF substitute diameter 1A simplification **NPR** **AO** (2)	M L2 E
3.2.2	Radius/*Radius* $= \frac{8\text{ cm}}{2}$ ✓MA = 4 cm ✓A	1MA concept of radius 1A simplification **NPU** **AO** (2)	M L1 E

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
3.2.3		**CA from Question 3.2.2**	M L4
	Area of a circle/*Area/Oppervlakte van 'n sirkel* ✓SF $= 3{,}142 \times (4\text{ cm})^2$	1SF correct substitution	M
	$= 3{,}142 \times 16\text{ cm}^2$ ✓MCA	1MCA squaring	
	$= 50{,}272\text{ cm}^2$ ✓CA	1CA simplification	
	Area to be painted / *Oppervlakte wat geverf moet word*		
	Area = $50{,}272 - 0{,}3142 = 49{,}9578\text{ cm}^2$ ✓CA	1CA difference	
	Total area / *Totale opp.*= $36 \times 49{,}9578\text{ cm}^2$		
	$= 1\,798{,}4808\text{ cm}^2$. ✓MCA	1MCA multiply by 36	
	Total area in m^2 / *Totale opp.in* m^2 $= 1\,798{,}4808 \div 100^2$		
	$= 0{,}179848\text{ m}^2$. ✓C	1C dividing by 10 000 or 100^2	
	$6\text{ m}^2 = 1\ \ell = 1000\text{ m}\ell$ ✓ MA $\ldots\text{ m}^2 = 50\text{ ml}$	1MA using ratio	
	$0{,}3\text{ m}^2 = 50\text{ ml}$		
	$0{,}3\text{ m}^2 > 0{,}179848\text{ m}^2$ ✓ CA	1CA comparing areas.	
	Therefore 50 mℓ will be more than sufficient. / ✓ O *Daarom sal 50* mℓ *meer as genoeg wees.*	1O verification	
	OR/*OF*	**OR/*OF***	
	Area of a circle/*Area/Oppervlakte van 'n sirkel* ✓SF $= 3{,}142 \times (4\text{ cm})^2$ ✓MCA	1SF correct substitution 1MCA squaring	
	$= 50{,}272\text{ cm}^2$ ✓CA	1CA simplification	
	Area to be painted/*Oppervlakte wat geverf moet word*		
	Area = $50{,}272\text{ cm}^2 - 0{,}3142\text{ cm}^2 = 49{,}9578\text{ cm}^2$ ✓CA	1CA difference	
	Total area / *Totale oppervlakte*		
	$= 36 \times 49{,}9578\text{ cm}^2 = 1\,798{,}4808\text{ cm}^2$. ✓MCA	1MCA multiply by 36	
	$= 1\,798{,}4808 \div 100^2$		
	$= 0{,}179848\text{ m}^2$ ✓C	1C dividing by 10 000 or 100^2	

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
	Paint/ *verf* 6 m^2 with/*met* 1 ℓ ∴ 0, 17984808 m^2 with /*met* *n* ℓ $n = \frac{0{,}17984808}{6}$ ℓ ✓MCA = 0,02997466 ℓ ≈ 30 mℓ ✓CA VALID / *GELDIG* ✓O **OR/*OF*** Area of ONE circle/*Oppervlakte van EEN sirkel* ✓SF = 3,142 × (4 cm)^2 ✓MCA = 50,272 cm^2 ✓CA Area to be painted/*Oppervlakte wat geverf moet word* = 50,272 cm^2 – 0,3142 cm^2 = 49,9578 cm^2 ✓CA 6m^2 : 1ℓ 60 000 cm^2 : 1 000 mℓ ✓C 49,9578 : ? Paint needed/ *Verf benodig* $\frac{49{,}9578 \times 1\,000}{60\,000}$ ✓MCA = 0,83263 mℓ Paint for 36/ *Verf vir 36* = 0,83263mℓ × 36 ✓MCA = 29,97 mℓ ✓CA ∴ VALID / *GELDIG* ✓O **OR/*OF*** Radius = $\frac{4\ cm}{100}$ = 0,04 m ✓SF Area of circle/ *Opp van sirkel* = 3,142 × (0,04)^2 ✓MCA = 0,0050272 m^2 ✓CA Area of circular hole/ *Opp van gaatjie* = $\frac{0{,}3142}{10\,000}$ ✓C = 0,0000314 m^2 Area to be painted = 0,0050272 m^2 – 0,00003142 m^2 = 0,00499578 m^2 ✓CA ∴ 0,00499578 m^2 × 36 = 0,17984808 m^2 ✓MCA Amount of paint/*Hoeveelheid verf* = $\frac{0{,}17984808}{6\ell}$ × 1 000 mℓ ✓MCA = 29,97468 mℓ ≈ 30 mℓ ✓CA ∴ 30 mℓ is less than 50mℓ VALID / *GELDIG* ✓O	1MCA using ratio 1CA paint needed 1O verification **OR/*OF*** 1SF correct substitution 1MCA squaring 1CA simplification 1CA difference 1C converting 1MCA using ratio 1MCA multiply by 36 1CA paint needed 1O verification **OR/*OF*** 1SF correct substitution 1MCA squaring 1CA simplification 1C dividing by 10 000 1CA difference 1MCA multiply by 36 1MCA using ratio 1CA paint needed 1O verification	

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
	OR/*OF*	**OR/*OF***	
	Area of a circle / *Oppervlakte van 'n sirkel* $= 3{,}142 \times 4^2$ ✓SF $= 3{,}142 \times 16$ ✓MCA $= 50{,}272\ cm^2$ ✓CA	1SF correct substitution 1MCA squaring 1CA simplification	
	Area to be painted / *Oppervlakte wat geverf moet word* Area / *Opp* = 50,272 – 0,3142 $= 49{,}9578\ cm^2$ ✓CA	1CA difference	
	$6\ m^2 / \ell = 60\ 000\ cm^2 / \ell$ $= 60\ 000\ cm^2 / 1\ 000\ m\ell$ ✓C	1C conversion	
	Amount of paint for one tag / *Hoeveelheid van verf per houtplaatjie* $= 49{,}9578 \div 60\ 000 \times 1\ 000$ ✓MCA $= 0{,}83263\ m\ell$	1MCA using ratio	
	Paint for 36 tags/ *Verf vir 36 houtplaatjies* $0{,}83263\ m\ell \times 36$ ✓MCA $= 29{,}97468\ m\ell$ ✓CA	1MCA multiply by 36 1CA paint needed	
	VALID / *GELDIG* ✓O	1O verification (9)	
* 3.3.1	Volume of a cube = side × side × side/ *Volume van 'n kubus = sy × sy × sy* ✓ SF ✓ SF $2\ 744\ cm^3$ = side × side × side $(side)^3 = 2\ 744\ cm^3$ ✓MA $14 \times 14 \times 14 = 2\ 744$ Side/*Sy* = 14 cm ✓CA	1SF substitution number 1SF cube unit 1 MA change subject of the formula 1CA simplification (4)	M L3 M
3.3.2	8 + 7 = 15 $P = \frac{15}{35}$ ✓ A ✓ A = 0,42857… ≈ 0,43 ✓ CA **OR/*OF*** $P = \frac{8}{35} + \frac{7}{35}$ ✓ A = 0,22857… + 0,2 ✓ A = 0,42857… ≈ 0,43 ✓ CA	1A numerator 1A denominator 1CA simplification **OR/*OF*** 1A denominator 1A writing as decimals 1CA simplification **NPR** (3)	P L2 E
		[31]	

QUESTION 4 [29 MARKS]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T/L**
* 4.1.1	Kerosene or lamp oil /*Keroseen of Lampolie* ✓✓ RT	2RT correct product (2)	MP L1 E
4.1.2	Gasoline or petrol/ *Brandstof of Petrol* ✓✓ RT	2RT correct product (2)	MP L1 E
* 4.1.3	$^0C = \frac{(^0F - 32)}{1,8}$. ✓ RT $300^0C = \frac{(^0F - 32)}{1,8}$. ✓ SF $^0F = 1,8 \times 300 + 32$ ✓ S $= 572$ ✓ CA	1RT correct value 300 1SF substituting information correctly 1S changing subject of the formula 1CA simplification **AO** (4)	M L3 M
* 4.1.4	Surface area of an open cylinder/ *Buite-oppervlakte van 'n oop silinder* = 3,142 × diameter × height / *= 3,142 × deursnee × hoogte* ✓ SF = 3,142 × 6 m × 54 m = 1 018,008 m^2 ✓ CA Area of pipes/*Oppervlakte van pype* $= \frac{2,5}{100} \times \frac{1\ 018,008}{1}$ ✓ MCA = 25,4502 m^2 ✓ CA Total Surface Area/*Totale buiteoppervlakte* ✓ MCA ✓ MA = 1 018,008 m^2 – 25,4502 m^2 + 150,816 m^2 = 1 143,3738 m^2. ✓ CA **OR/*OF***	1SF substitution 1CA simplification 1MCA percentage calculation 1CA simplification 1MCA subtracting pipe area 1MA adding A + C 1CA total surface area **OR/*OF***	M L3 D

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T/L
	Surface area of an open cylinder/*Buite-oppervlakte van 'n oop silinder* SA = 3,142 × diameter × height/ *BO = 3,142 × deursnee × hoogte* = 3,142 × 6 m × 54 m ✓ SF = 1 018,008 m^2 ✓CA Excluding area of pipes/*Oppervlakte van pype uitgesluit* ✓ MA ✓ MCA Area (excluding)/*Opp(uitgesluit)* = $\frac{97,5}{100} \times \frac{1\,018,008}{1}$ = 992,5578 ✓ CA ✓ MA Total SA/*Totale BO* = 992,5578 m^2 + 150,816 m^2 = 1 143,3738 m^2. ✓ CA	1SF substitution 1CA simplification 1MA less 2,5% 1MCA percentage calculation 1CA simplification 1MA adding A + C 1CA total surface area **NPR** (7)	
* 4.2.1	Number of bricks in 1 row of a double brick wall *Getal stene in een ry van 'n dubbelsteenmuur* = 19 ✓✓ RT Number of bricks for 1 garage door *Getal stene vir 1 motorhuis deur* = 19 × 20 ✓ A = 380 Total number of bricks needed /*Totale getal stene nodig* = 380 × 2 ✓MCA = 760 ✓R ∴ 2 Pallets of bricks /*Stapelborde met stene* **OR/*OF***	2RT bricks in double row 1A number of layers 1MCA doubling 1R number of pallets **OR/*OF***	M L2 M

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T/L
	✓ RT ✓ RT Single line wall/*Enkelmuur* = 20 × 10 = 200 bricks/ *stene* ✓ CA Double line wall/*Dubbelmuur* = 2 × 200 = 400 bricks To cover space of two garage doors:/ *Om die spasie van twee motorhuisdeure te dek* Number of bricks/*Getal stene* = 2 × 400 ✓ MCA = 800 Number of pallets needed/ *Stapelborde met stene benodig* = 2 ✓ R	1RT bricks (height) 1RT bricks (row) 1CA bricks on double walls 1MCA doubling 1R number of pallets (5)	
4.2.2	✓ MA ✓ SF Area of 2 doors/*Opp van 2 deure* = 2 × 2,13 × 3 = 12,78 m^2 ✓ A Labour cost/*Arbeidskoste* = 12,78 m^2 × R500 = R 6 390 ✓ CA Brick cost/*Steenkoste* = 2 × 525 × R6,45 = R 6 772,50 ✓ CA COST = Other material + Labour + Bricks cost/ *KOSTE = Ander materiaal + Arbeid + Steenkoste* Total cost/*Totale koste* = R2 000 + R6 390 + 6 772,50 = R15 162,50 ✓ CA Not VALID/*Nie GELDIG.* ✓ O **OR/*OF***	**CA pallets from 4.2.1** 1MA doubling 1SF correct values 1A simplification 1CA labour cost 1CA brick cost 1CA amount 1O verification **OR/*OF***	M/Fin L4 M

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T/L
	For one door/ *Vir een deur* Area/ *oppervlakte* = 2,13 m × 3 m ✓ SF = 6,39 m^2 ✓ A Labour cost/*Arbeidskoste* = 6,39 m^2 × R500 = R3 195 ✓ MCA ∴ for two / *vir twee* = 2 × R3 195 = R6 390 ✓ CA Cost per pallet/ *koste per stapelbord* = R6,45 × 525 = R3 386,25 ∴ for two / *vir twee* = 2 × R3 386,25 = R6 772,50 ✓ CA Total cost/*Totale koste* = R2 000 + R6 390 + 6 772,50 = R15 162,50 ✓ CA Not VALID/*Nie GELDIG*. ✓ O **OR/*OF*** ✓ SF Area of 2 doors / *Opp van 2 deure* = 2 × 2,13 × 3 = 12,78 m^2 ✓ MA ≈ 13 m^2 (cost per m^2) ✓ CA Labour Cost / *Arbeidskoste* = 13 ×R500 = R6 500 ✓ CA Brick cost / *Steen koste* = 2 × 525 × R6,45 = R6 772,50 ✓ CA Total Cost / *Totale Koste* = R6 500 + R6 772,50 + R2 000 = R15 272,50 ✓ CA Not VALID / *Nie GELDIG nie* ✓O	1SF correct values 1A simplification 1MCA labour cost 1CA doubling 1CA brick cost 1CA amount 1O verification **OR/*OF*** 1SF substitution 1MA doubling 1CA simplification 1CA labour cost 1CA brick cost 1CA amount 1O verification (7)	
4.2.3	✓✓ O To be easily lifted by a fork lift./*Om maklik met 'n vurkhyser op te lig word.* **OR/*OF*** Storage/ loading / transportation are made easier */Berging/ laai / vervoer word vergemaklik.* **OR/*OF*** It keeps them from breaking / *Dit keer dat hulle breek* **OR/*OF*** It makes counting easier/*Dit is makliker om te tel* To protect the bricks from damage/ *Dit beskerm die stene van beskadiging* To keep it tight and compact/ *Om die stene stewig en kompak te hou*	2O reason (2)	M L4 E
		[29]	

QUESTION 5 [33 MARKS]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T/L**
5.1.1	✓RT ✓RT Adelaide and/*en* Melbourne	1RT 1st city 1RT 2nd city (2)	MP L1 E
* 5.1.2	✓RT ✓RT ✓RT Aug, Sep, Oct, Nov *Aug, Sep, Okt, Nov*	1RT first correct month 1RT second correct month 1RT ALL correct months (3)	MP L1 M
5.1.3	✓RT 14 655 – (738 + 1 062 + 922 + 1 705 + 2 850 + 1 871 + 2 811) = 14 655 – 11 959 ✓MCA = 2 696 km ✓CA	1RT all correct values 1MCA subtracting 1CA simplification **AO** (3)	MP L2 M
* 5.1.4	Tasmania./*Tasmanië* ✓✓RT	2RT correct state (2)	MP L1 E
5.1.5	Distance/*Afstand* = Speed × time 1 705 km = s × 20 h 40 min ✓SF 1 705 km = s × 20,67 h ✓C Speed/*Spoed* $= \frac{1\ 705\ \text{km}}{20{,}67\ \text{h}}$ ✓S = 82,5 km/h ✓CA	1SF substitution 1C converting to hours 1S change subject of formula 1CA simplification (4)	M L2 M
5.2.1	✓RT 1 142 feet/*voet* = 348 m ✓RT 1 foot/*voet* $= \frac{348}{1\ 142}$ = 0,304728546 1 foot/*voet* ≈ 0,305 m ✓A	1RT 1 142 1RT 348 1A 0,305 (3)	M L2 M
* 5.2.2	Uluru : Eiffel Tower : Big Ben/ *Uluru : Eiffeltoring : Big Ben* 348 : 324 : 96 ✓RT ✓A = 29 : 27 : 8 ✓✓CA	1RT correct values 1A correct order 2CA simplified ratio (4)	M L2 E

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T/L
* 5.3.1	P = 22,5% ✓✓A **OR/*OF*** P = $\frac{1\ 729\ 742}{7\ 688\ 220}$ ✓✓A = 0,224986… or 22,5%	2A correct probability (2)	P L2 E
5.3.2	Area of island/*Opp van eiland* = $\frac{32\ 159}{64\ 519}$ ✓RT ✓RT = 0,498 ≈ 0,5 ✓CA **OR/*OF*** Half of Tasmania / *Helfte van Tasmanië* 64 519 × $\frac{1}{2}$ = 32 259,5 km² ✓RT ✓MA Islands / *Eilande* = 32 159 km² ✓RT ✓RT ✓RT **OR/*OF*** 64 519 : 32 159 ≈ 2 : 1 ✓CA	1RT area of islands 1RT area of Tasmania 1CA simplification **OR/*OF*** 1RT Tasmania area 1MA simplification 1RT island area **OR/*OF*** 1RT area of islands 1RT area of Tasmania 1CA simplification (3)	MP L4 M
* 5.3.3 (a)	Population density/*Bevolkingsdigtheid* = $\frac{454\ 499}{2\ 358}$ ✓RT ✓RT = 192,74… ≈ 193 ✓R	1RT correct 454 499 1RT correct area 2 358 1R simplification rounded up (3)	M L3 D
* 5.3.3 (b)	Land % area/*Land % opp* = $\frac{2\ 358}{7\ 688\ 220}$ ✓RT ✓RT × 100% = 0,0306..% ✓CA Rounds off to zero/*Rond af na nul*. ✓O	1RT correct 2 358 1RT 7 688 220 1CA simplification 1O opinion (4)	M L4 D
		[33]	