education

Department:
Education
North West Provincial Government
REPUBLIC OF SOUTH AFRICA

PROVINCIAL ASSESSMENT/ *PROVINSIALE ASSESSERING*

GRADE/*GRAAD* 11

MATHEMATICAL LITERACY P2
WISKUNDIGE GELETTERDHEID V2
NOVEMBER 2024
MARKING GUIDELINES/ *NASIENRIGLYNE*

MARKS/*PUNTE*: 100

Symbol/*Kode*	Explanation/*Verduideliking*
M	Method/*Metode*
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/a graph/document/diagram/*Lees vanaf tabel/grafiek/document/diagram*
SF	Correct substitution in a formula *Korrekte vervanging in formule*
O	Opinion/Explanation/Reasoning/*Opinie/Verduideliking/Redenasie*
P	Penalty, e.g. for no units, incorrect rounding off, etc./*Penalisasie, bv. vir geen eenhede/verkeerde afronding, ens.*
R	Rounding off//*Afronding*
NPR	No penalty for correct rounding/*Geen penalisering vir korrekte afronding nie*
AO	Answer only/*Slegs antwoord*

These marking guidelines consists of 8 pages/*Hierdie nasienriglyne bestaan uit 8 bladsye*.

Copyright reserved/*Kopiereg voorbehou*

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.
- NOTE: consistent accuracy (CA) does not apply in cases of a breakdown.
- If the candidate presents any extra solution when reading from a graph, table, layout plan and map, then penalize for every extra item presented.
- 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.
- Rounding is an independent mark.
- In opinion type questions marks will only be awarded if relevant calculations are shown.

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 WEL: volgehoue akkuraatheid (CA) geld nie in die geval van ‘n afbreuk nie.
- Wanneer ‘n kandidaat aflesings vanaf ‘n grafiek, tabel, uitlegplan en kaart geneem 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 afsonderlike punt.
- Ten einde die verifikasie/gevolgtrekking punt toe te ken moes die kandidaat ten minste een punt gekry het in die berekeninge wat lei tot die finale gevolgtrekking.

QUESTION 1/*VRAAG* [19 MARKS/*PUNTE*] Answer only AO – full marks

Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T/L**
1.1.1 (a)	Thermometer/*Termometer*✓✓A	2A answer/*antwoord* (2)	M L1 E
(b)	The degree of hotness or coldness of a substance/*Die grade van hoe warm of koud ‘n voorwerp is*✓✓A	2A answer/*antwoord* (2)	M L1 E
(c)	43 °C✓✓A	2A answer/*antwoord* (2)	M L1 E
1.1.2	400 ml✓RT 0,4 litres/*liters*✓A	1RT correct reading/*korrek gelees* 1CA conversion/*herleiding* (2)	M L1 E
1.1.3	Distance/*Afstand* = 9,7 cm – 2,9 cm✓RT = 6,8 cm✓CA = 68 mm✓C	1RT reading from the diagram /*lees vanaf die diagram* 1CA answer/*antwoord* 1C conversion/*herleiding*	M L1 M

	OR/*OF* Distance/*Afstand* = 97 mm – 29 mm✓RT✓C = 68 mm✓CA	**OR/*OF*** 1RT reading values/*lees waardes* 1C conversion/ *herleiding* 1CA answer//*antwoord* (3)	
1.2.1	Strip Chart/map/*Strookkaart*✓✓A	2A answer/*antwoord* (2)	MP L1 E
1.2.2	Distance/*Afstand* = 117 km✓✓RT **OR/*OF*** Distance/*Afstand* = 557 km – 440 km✓RT = 117 km✓A	2RT reading from the map/*lees vanaf kaart* **OR/*OF*** 1RT read and subtraction/*lees en aftrek* 1A answer/*antwoord* (2)	MP L1 M
1.2.3	Escourt✓✓RT	2RT reading from the map/*lees Vanaf kaart* (2)	MP L1 E
1.2.4	5 towns/*dorpe*✓✓RT **Accept 6 towns/*aanvaar 6 dorpe***	2RT reading from the map/*lees Vanaf kaart* (2)	MP L1 E
		[19]	

QUESTION/*VRAAG* 2 [24 MARKS/*PUNTE*]			
2.1.1	Food/Kitchen/*Kos/kombuis*✓✓RT	2RT answer/*antwoord* (2)	MP L1 E
2.1.2	South/*Suid* (S) ✓A and/*en* East/*Oos* (E)✓A **OR/*OF*** Southern/*Suidelik* and/*en* Eastern/*Oostelik*	1A South/*Suid* 1A East/*Oos* (2)	MP L2 E
2.1.3 (a)	37✓RT and/*en* 38✓RT	1RT room/*kamer* 37 1RT room/*kamer* 38 (2)	MP L2 E
(b)	The rooms are close to the corner✓A of Mimosa✓RT and Flower Street✓RT/ *Die klaskamers is naby die hoek*✓A *van Mimosa* ✓RT *en Flower Straat*✓RT **OR/*OF*** Adjacent/next to corner of Mimosa and Flower Street *Op/langs die hoek van Mimosa en Flower straat*	1A corner/adjacent/next to /*hoek van/langs aan* 1RT Mimosa 1RT Flower (3)	MP L3 M

2.1.4	Classroom/*Klaskamer* 14✓✓RT	2RT number/*nommer* 14 (2)	MP L2 M
2.1.5	Traffic congestion can be avoided when learners are picked up or dropped off/*Verkeersopeenhoping kan verhoed word as leerders op gelaai of afgelaai word.*✓✓O **OR** Learners might be crossing the road, and a two-way traffic can cause accidents/*Leerders mag dalk die pad oorsteek, en tweerigting-verkeer kan ongelukke veroorsaak*	2O reason/*rede* (2)	MP L4 M
2.1.6	$P = \frac{4\checkmark A}{38\checkmark A} \times 100$ = 10,52631579%✓CA = 10,526%✓R	1A numerator/*teller* 1A denominator/*noemer* 1CA simplification/ *vireenvoudiging* 1R rounding/*afronding* (4)	P L3 D
2.2.1	12 km = average speed × 60 min✓SF 12 000 m ✓C = average speed × 60 min Average speed/*gemiddelde spoed* = 12 000 m ÷ 60 min✓M = 200 metres/*minute*✓CA **OR/*OF*** Average speed = distance ÷ time✓M 12 km ÷ 60 min✓SF = 12 000 m ÷ 60 min✓C = 200 m/min✓CA	1SF substitution/*vervanging* 1C conversion/*herleiding* 1M changing the subject of the formula/*verander die onderwerp van die formule* 1CA simplification/ *vereenvoudiging* **OR/*OF*** 1M changing the subject of the formula/*verander die onderwerp van die formule* 1SF substitution/*vervangding* 1C conversion/*herleiding* 1CA simplification/ *vereenvoudiging* (4)	MP L3 M M L2 M
2.2.2 3.2.2	200 m/min is too fast for walking and too slow for travelling by car or taxi./*200 m/min is te vining om te loop en te stadig om met 'n motor of minibus te ry.*✓O Thus, the learner was cycling/running/*Dus, moet die leerder fietsry of hardloop*✓O **OR/*OF*** Any other sensible answer/*Enige sinvolle antwoord*	2O reason/*rede* 1MCA dividing by/ *deël met* 594 1CA number of pallets/ *hoeveelheid palette* (3)	MP L4 D
	Number of pallets/*hoeveelheid palette* = 8 385,048 ÷ 594✓MCA = 14,11624242✓CA = 15 pallets/*palette* ✓R	**CA number of bricks from/ *hoeveelheid stene van* 3.2.1** 1MCA optimal/*optimale* 1R rounding up/*rond op* (3) **[24]**	

3.2.3	Mass/*gewig* = 8 386 × 2,230 kg✓MCA = 18 700,78 ÷ 1 000 = 18,7078 ton✓C	**CA number of bricks from /*hoeveelheid stene van* 3.2.1** 1MCA multiplying/*vermenigvuldiging* 1SF substitution/*vervanging* 1CA simplification/*vereenvoudiging* 1C conversion/*herleiding* 1R rounding/*afronding* **OR/*OF*** 1MCA multiplying/*vermenigvuldiging* 1SF substitution/*vervanging* 1CA simplification/*vereenvoudiging* 1C conversion/*herleiding* 1R rounding/*afronding* (4)	M L2 M L2 M
3.1.1	Area of 1 bicycle/*Oppv van 1 fiets* = 180 cm × 45 cm✓SF = 1,8 m × 0,45 m✓C = 0,81 m^2✓CA **OR/*OF*** Area of 1 bicycle/*Oppv van 1 fiets* = 180 cm × 45 cm✓SF = 8 100 cm^2✓C = 0,81 m^2✓CA	1SF substitution/*vervanging* 1CA simplification/*vereenvoudiging* 2O explanation/*verduideliking* 1C conversion/*herleiding* (3)	M L1 E
3.3.1	As one quantity increases, the other one decreases/*As een eenheid verhoog, neem die ander een af*✓✓O	2O explanation/*verduideliking* (2)	E
3.3.2	Number of days = 30✓RT ÷ number of people✓A / *Hoeveelheid dae = 30 ÷ hoeveelheid mense*	1RT 30 1A divided by number of people/*deel met hoeveelheid mense*	M L2
3.1.2	Total floor area/*Totale vloer oppervlakte* = 0,81 m^2 + 0,5 m^2✓MCA = 1,31 m^2✓CA Number of days × number of people✓ = 30✓ *Hoeveelheid dae × hoeveelhed mense = 30* 127 bicycles/*fietse* × 1,31 m^2✓MCA = 166,37 m^2 The statement is correct/*Die stelling is korrek.*✓O	**CA from/*vanaf* 3.1.1** 1MCA adding additional space/*el adisionele spapsie by* **OR/*OF*** 1RT 30 1A number of days multiplied by number of people/*vereenvoudiging* 1MCA multiplying by/*maal met* 127 *hoeveelheid dae maal met hoeveelhed mense* 1O opinion/*opinie* (2)	E L4 M
3.3.3	1 m^2 need/*benodig* 48 bricks/*stene* 166,37 m^2 needs/*benodig* ? Number of bricks/*Hoeveelheid stene* = 48 × 166,37✓MA = 7 985,76✓A = 7 985,76 × 1,05✓MCA = 8 385,048✓CA = 8 380✓R **Accept 4 days** Increase by 5% /*verhoog met 5%* **OR/*OF*** 105%	**CA formula from/*vanaf* 3.3.2** 1MA multiplying/*vermenigvuldig* 1MCA substituting/*trek af* 8 1A number of bricks/*hoeveelheid stene* 1CA answer/*antwoord* 1MCA increase percentage/*verhoogde persentasie* 1CA simplification/*vereenvoudiging* 1R rounding/*afronding* (4)	M L1 L3 E D
			[26]

QUESTION/*VRAAG* 4 [31 MARKS/*PUNTE*]

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking* T/L	
4.1.1	Anti clockwise/*Anti-kloksgewys* **OR/OF** Left/*Links*✓✓A	2A direction/*rigting* 1R rounding/*afronding* (5) (2)	MP L1 E
4.1.2	Diagram 3✓✓A	2A correct/*korrekte* diagram (2)	MP L2 E
4.1.3	1,55 m = diagram height/*hoogte* x 25 Diagram height/*hoogte* = 1,55 m ÷ 25✓MA = 0,062 m✓A = 6,2 cm✓C **OR/*OF*** 1,55 m = 155 cm✓C 155 cm ÷ 25✓MA = 6,2 cm✓A	1MA divide by scale/*deël met skaal* 1A length/*lengte* in m 1C conversion/*herleiding* **OR/*OF*** 1C conversion/ *herleiding* 1MA dividing by scale/*deël met skaal* 1A length/ *lengte* (3)	MP L2 M

4.2.1	Space occupied by a 3D object/*Spasie wat deur 'n 3D voorwerp opgeneem word*✓✓A	2A answer/*antwoord* (2)	M L1 E
4.2.2	Volume = 340 mm × 325 mm × 180 mm✓SF = 0,34 m × 0,325 m × 0,18 m✓C = 0,01989 m^3✓CA **OR/*OF*** Volume of the box/*volume van die boks* = 340 mm × 325 mm × 180 mm✓SF = 19 890 000 mm^3 ÷ 1 000 000 000✓CA = 0,01989 m^3✓C	1C conversion/*herleiding* 1SF substitution/*vervanging* 1CA simplification/ *vereenvoudiging* **NPR** (3)	M L2 M
4.2.3	Number of boxes/*Hoeveelheid bokse*: Length wise/*Lengte* = 1 700 mm ÷ 340 mm✓MA = 5✓A Width wise/*Breedte* = 1 490 mm ÷ 325 mm = 4,584615385 = 4✓A Height wise/*Hoogte* = 1 200 mm ÷ 180 mm = 6,6666667 = 6✓A Total/*Totaal* = 5 × 4 × 6✓MCA = 120 boxes/*bokse*✓CA **OR/*OF*** Length wise/*lengte*: 1,7 m ÷ 0,34 m✓MA = 5✓A Width wise/*breedte*: 1,49 m ÷ 0,325 m = 4,584615… = 4✓A Height wise/ *hoogte*: 1,2 m ÷ 0,18 m = 6,666… = 6✓A Total/*totaal* = 5 × 4 × 6✓MCA = 120 boxes✓CA	1MA dividing/*deë/* 1A answer/*antwoord* 1A number width wise/ *hoeveelheid in breedte* 1A number height wise/ *hoeveelheid in hoogte* 1MCA multiplying/ *vermenigvuldig* 1CA number of boxes/ *hoeveelheid bokse* (6)	MP L3 D
4.2.4	30 June from 14:50 to 24:00 = 9 hours 10 min✓A *30 Junie van 14:50 tot 24:00 = 9 uur 10 min* 1 July = 24 hours *1 Julie = 24 uur* 2 July from 00:00 to 8:15 = 8 h 15 min ✓A *2 Julie van 00:00 tot 8:15 = 8 h 15 min* Total elapsed time = 9h10 + 24h00 + 8h15 = 41 hours 25 min✓CA *Totale tyd verloop = 41 uur 25 min* This is within the 48-hour service✓O *Dit is binne die 48-uur diens* **OR/*OF***	1A time 30 June/*tyd 30 Junie* 1A time 1 and 2 July/*tyd 1 en 2 Julie* 1CA adding time/*tel tyd bymekaar* 1O opinion/*opinie* **OR/*OF***	M L4 D

	30 June from 14:50 To 1 July 14:50 = 24 hours/ first day✓ A */30 Junie van 14:50* *Tot 1 Julie 14:50 = 24 uur/ dag 1* To 2 July 14:50 = 48 hours/second day✓ A *Tot 2 Julie 14:50 = 48 ure / dag 2* But 2 July 8:15 is before 48 hours✓ A *Maar 2 Julie 8:15 is voor 48 uur* It is within 48 hours✓O *Dit is binne 48 uur*	1A 1st day/*dag 1* 1A 2nd day/*dag 2* 1A conclusion/*gevolgtrekking* 1O conclusion/*gevolgtrekking* (4)	
4.3.1	Body Mass Index/*Liggaamsmassa-indeks*✓✓A	2A answer/*antwoord* (2)	M L1 E
4.3.2	Underweight/*Ondergewig*✓✓RT	2RT answer/*antwoord* (2)	M L2 E
4.3.3	18,2 kg/m^2 = mass/*gewig* ÷ (1,56 m)^2 ✓SF Mass/*gewig* = 18,2 × (1,56)^2 ✓M = 44,29 kg✓A	1SF substitution/*vervanging* 1M changing the subject of the formula/*verander die onderwerp van die formule* 1A simplification/ *vereenvoudiging* **NPR** (3)	M L2 M
4.3.4	Eat a balanced diet/*Eet 'n gebalenseerde dieët* **OR/*OF*** eat food with lots of fibre/fats/*eet kos met baie vessel/ vette* **OR/*OF*** eat food that will assist her to gain weight/*eet kos wat sal help om gewig op te tel*✓✓O	2O opinion/*opinie* (2)	M L4 E
		[31]	
		TOTAL/*TOTAAL*:	**100**