education

Department:
Education
North West Provincial Government
REPUBLIC OF SOUTH AFRICA

PROVINCIAL ASSESSMENT

GRADE 12

MATHEMATICAL LITERACY P2
JUNE 2024
MARKING GUIDELINES

MARKS: 100

Symbol	Explanation
M	Method
MA	Method with accuracy
MCA	Method with consistent accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT	Reading from a table/a graph/document/diagram
SF	Correct substitution in a formula
O	Opinion/Explanation/Reasoning
P	Penalty, e.g. for no units, incorrect rounding off, etc.
R	Rounding off
NPR	No penalty for correct rounding
AO	Answer only

These marking guidelines consist of 9 pages.

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.

QUESTION 1 [20 MARKS] Answer only AO – full marks			
Ques	**Solution**	**Explanation**	**T/L**
1.1.1	C✓✓A	2A answer (2)	P L1
1.1.2	A✓✓ A	2A answer (2)	M L1
1.1.3	E✓✓ A	2A answer (2)	MP L1
1.2.1	Number of tablespoons = $\frac{90ml}{15ml}$ ✓ MA = 6 ✓ A	1MA division 1A answer (2)	M L1
1.2.2	✓RT 75 g : 375 g✓ MA 1 : 5✓ A	1RT correct values 1MA correct order 1A unit ratio (3)	M L1
1.2.3	Amount of brown sugar = $1\frac{1}{2}$ cup = $1\frac{1}{2}$ × 250 g ✓MA = 375 g✓S = 0,375 kg✓C **OR** 1 cup + $\frac{1}{2}$ cup = 250 g + 125 g✓MA $1\frac{1}{2}$ cup of sugar = 375 g ✓S = 0,375 kg✓C	1MA multiplication 1S simplification 1C conversion **OR** 1MA addition 1S simplification 1C conversion (3)	M L1
1.3.1	National Road map✓✓A	2A answer (2)	MP L1
1.3.2	1 unit on the map represents 50 000 units on the ground.✓✓A	2A explanation (2)	MP L1
1.3.3	Netcare Mulbarton Hospital✓A Netcare Sunward Park Hospital✓A Netcare Alberton ✓A **Any 2 correct answers**	1A answer 1A answer (2)	MP L1
		[20]	

QUESTION 2 [28 MARKS]			
Ques	**Solution**	**Explanation**	**T/L**
2.1.1	Strip chart✓✓A	2A answer (2)	MP L1
2.1.2	964 km✓✓A	2A answer (2)	MP L1
2.1.3	Speed = $\frac{\text{distance}}{\text{time}}$ 120 km/h = $\frac{964\text{ km}}{\text{time}}$✓SF Time = $\frac{964\text{ km}}{120\text{ km/h}}$✓ M = 8,033333h✓CA	**CA from Q2.1.1** 1SF substitution 1M changing the subject 1CA answer **NPR** (3)	MP L3
2.1.4	✓A RT✓ Distance = 60 km + 74 km + 24 km + 158 km✓M = 316 km✓CA	1A 60 km 1RT 3 correct distances 1M addition 1CA answer (4)	MP L2
2.1.5	To rest from driving.✓✓O **OR** To do site viewing.✓✓O **OR** To catch up with his friend.✓✓O **Accept any relevant reason.**	2O reason (2)	MP L4
2.2.1	N3✓A N2✓A	1A answer 1A answer (2)	MP L1
2.2.2	Bar scale✓✓A	2A answer (2)	MP L1
2.2.3	North-West✓✓A **OR** NW✓✓A	2A answer (2)	MP L2
2.2.4	Scale ✓A 22 mm : 10 km 22 mm : 10 000 000 mm✓C 1 : 5454 545✓S **OR** Scale ✓A 2,2 cm : 10 km 2,2 cm : 1 000 000 cm✓C 1: 454 545✓S **[Accept 21 mm – 23 mm or 2,1 cm – 2,3 cm]**	1A measured distance 1C conversion 1S simplification **OR** 1A measured distance 1C conversion 1S simplification (3)	MP L3
2.3.1	810 m ✓✓A	2A answer (2)	MP L2
2.3.2	Distance = 45 km ✓✓A **Accept** [44 – 46 km]	2A answer (2)	MP L2

2.3.3	Insufficient training.✓✓O **OR** Injuries ✓✓O **OR** Poor nutrition and hydration (cramping, fatigue, energy depletion)✓✓O **OR** Mental challenges (anxiety)✓✓O **OR** Medical issues (fainting)✓✓O **OR** Environmental issues (weather conditions, excessive heat or cold)✓✓O **OR** Equipment issues (inappropriate footwear or gear)✓✓O	2O reason (2)	MP L4
		[28]	

QUESTION 3 [32 MARKS]			
Ques	**Solution**	**Explanation**	**T/L**
3.1.1	Perimeter is the total length around a shape or object.✓✓A **OR** Perimeter is the total length of the boundary of a shape or object.✓✓A	2A answer (2)	M L1
3.1.2	Area = $2(l \times b) + 2(b \times h) + (l \times h)$ ✓SF ✓SF = 2(0,4 m × 0,29 m) + 2(0,29 m × 0,54 m) + (0,4 m × 0,54 m)✓SF = 0,232 m^2 + 0,3132 m^2 + 0,216 m^2 ✓S = 0,7612 m^2 ✓CA	1SF substitution 1SF substitution 1SF substitution 1S simplification 1CA answer (5)	M L2
3.1.3	Double coats = 0,7612 m^2 × 2✓MCA = 1,5224 m^2 ✓CA Amount of paint = 1,5224 × 0,8 litres✓MCA = 1,21792 litres ✓CA ∴ Correct ✓O **OR** Amount of paint = 0,7612 m^2 × 0,8 litres/m^2✓MCA = 0,60896 ✓CA Double coats = 0,60896 × 2✓MCA = 1,21792 litres ✓CA ∴ Correct ✓O	**CA from Q3.1.2** 1MCA multiplication 1CA answer 1MCA multiplication by rate 1CA answer 1O opinion **OR** 1MCA multiplication by rate 1CA answer 1MCA multiplication 1CA answer 1O opinion (5)	M L4
3.1.4	Total length = perimeter of front edges + the inner length of one shelf ✓SF ✓M = 2(0,4 m + 0,54 m) + 0,4 m – 2 × 0,02 m = 1,88 m + 0,4 – 0,04 m = 1,88 m + 0,36 m✓S = 2,24 m✓CA ∴ Not valid✓O	1SF substitution of front edges 1M subtracting 2 × 0,02 m 1S simplification 1CA answer 1O opinion (5)	M L4
3.2.1	Mass = 149 × 0,454 kg✓C = 67, 646 kg✓A ≈ 68 kg✓R	1C conversion 1A answer 1R rounding (3)	M L2

3.2.2	BMI = $\frac{\text{mass in kg}}{(\text{height in m})^2}$ = $\frac{68\text{ kg}}{(1{,}52\text{ m})^2}$✓SF = 29,4 kg/m^2 ✓CA	**CA from Q3.2.1** 1SF substitution 1CA answer (2)	M L2
3.2.3	Overweight ✓✓O	**CA from Q3.2.2** 2O opinion (2)	M L4
3.3.1	✓RT Dose = 40 mg × 60✓MA = 2 400 mg	1RT correct values 1MA multiplication (2)	M L2
3.3.2	Volume = $\frac{2\,400\times5}{400}$ ml✓MCA = 30 ml✓CA	**CA from Q3.3.1** 1MCA multiplication and division 1CA answer (2)	M L2
3.3.3	°F = (°C × 1,8) + 32° 70° = (°C × 1,8) + 32°✓SF °C = (70°- 32°) ÷ 1,8✓M °C = 21, 111°✓A °C = 20°✓R	1SF substitution 1M changing subject 1A answer 1R rounding (4)	M L3
		[32]	

QUESTION 4 [20 MARKS]			
Ques	**Solution**	**Explanation**	**T/L**
4.1	The theatre has seats allocated for people using wheelchairs.✓✓O **OR** Disabled people are also welcome in the theatre.✓✓O **Accept any relevant explanation.**	2O explanation (2)	MP L4
4.2	To be entertained.✓✓O **OR** For education/religion /social purposes. ✓✓ O **OR** To relax.✓✓O **OR** To while away time.✓✓O **OR** To take away their minds from worries.✓✓O **OR** To watch a play.✓✓O **OR** To distress.✓✓O **Accept any relevant reason.**	2O reason (2)	MP L4
4.3	Probability = $\frac{5\checkmark A}{26\checkmark A}$ = 0,1923… = 0,2✓R	1A numerator 1A denominator 1R rounding (3)	P L3
4.4	✓A Move to the aisle and walk Easterly along the aisle ✓A ✓A ✓A Turn North at G7. Walk in the North direction until you reach G17. **OR** ✓A Move to the aisle and walk East passing rows K, J and H. ✓A ✓A ✓A Turn North at G7 then walk straight until you reach G17. **OR** ✓A ✓A ✓A Move in the north direction, turn east at L18 then move ✓A easterly until you reach G17. **Accept left, right and down.**	1A easterly 1A north 1A G7 1A North **OR** 1A east 1A north 1A G7 1A straight **OR** 1A north 1A east 1A L18 1A easterly (4)	MP L2

4.5	85 minutes = 1 hour 25 minutes✓A End time = 15:15 + 1:25✓M = 16:40✓A **OR** End time = 15:15 + 85 minutes✓M ✓A = 16:40✓A **OR** End time = 15:15 + 45 minutes + 40 minutes✓M ✓A = 16:40✓A	1A time in hours and minutes 1M addition 1A exact time **OR** 1M addition 1A hours 1A minutes **OR** 1M addition 1A hours 1A minutes (3)	M L2
4.6	✓MA Total length = 2 × 20′′ + 1× 22′′ + 12 × 21′′✓M = 40′′ + 22′′ + 252′′ = 314′′✓S = $\frac{314}{0,394}$ cm = 796,9543147 cm✓C = $\frac{796,9543147}{100}$ = 7,96… m✓C = 8 m✓R **OR** ✓C 20′′ = 50,7614 … cm: 22′′ = 55,837… cm: 21′′ = 53,2999…. cm Total length ✓M ✓MA = 2 × 50,76 … cm + 1× 55,83… cm + 12 × 53,29…cm = 101,52222…cm + 55,837….cm + 639,59…cm = 796,9543858 cm✓S = $\frac{796,9543858}{100}$ = 7,96… m✓C = 8 m✓R	1MA 12 × 21′′ 1M addition 1S simplification 1C conversion to cm 1C conversion to m 1R rounding **OR** 1C conversion to cm 1M addition 1MA 12 × 53,2999…. cm 1S simplification 1C conversion to m 1R rounding	M L3

4.6	**OR** ✓C 20´´ = 50,7614 … cm: 22´´ = 55,837… cm: 21´´ = 53,2999…. cm: ✓C 50,7614 … cm = 0,507614 … m 55,837… cm = 0,55837… m 53,2999…. cm = 0,532999…. m Total length ✓MA = 2 × 0,50 … m + 1× 0,55… m + 12 × 0,53…. m ✓M = 1,0152222…m + 0,55837….m + 6,3959…m = 7,969543858 cm✓S = 8 m✓R	**OR** 1C conversion to cm 1C conversion to m 1MA 12 × 0,532999…. M 1M addition 1S simplification 1R rounding (6)	M L3
		[20]	
		TOTAL: 100	