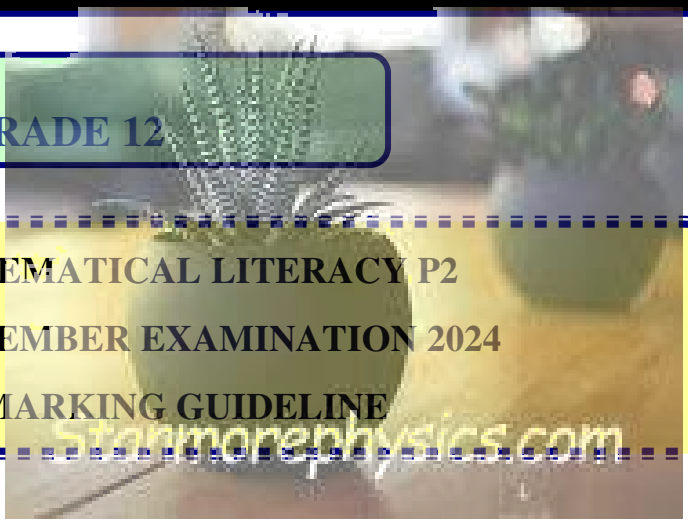
LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

NATIONAL SENIOR CERTIFICATE



GRADE 12

MATHEMATICAL LITERACY P2

SEPTEMBER EXAMINATION 2024

MARKING GUIDELINE

MARKS/*PUNTE*: 150

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

This marking guideline consists of 15 pages

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NSC

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

QUESTION 1 [29 MARKS] Answer only AO- full marks			
Q	**Solution**	**Explanation**	**T & L**
1.1.1	6 ✓✓ RT	2 RT correct number (2)	M L1
1.1.2	Cup= 60ml + 60 ml +60ml + 60 ml ✓ MA = 240ml ✓ A OR CUP = 60x 4 ✓ MA = 240ml ✓ A OR Cup = 60/0,25 ✓ MA = 240ml ✓ A	1MA addition 1A correct answer AO MA Multiplying by 4 A correct answer MA dividing by 0,25 1A correct answer (2)	M L1
1.1.3	10min + 55 min ✓ MA = 1h 05 min ✓ A	1 MA adding correct values 1A correct answer (2)	M L1
1.1.4	16:42 ✓✓ A	1A correct answer (2)	M L1
1.1.5	✓ RT 15ml: 60 ml ✓ A 1 : 4 ✓ CA	1RT Correct values 1A correct order 1CA correct answer (3)	M L1
1.1.6. a	15 ÷ 5 ✓ MA 3 teaspoons ✓ A	1MA division 1A answer (2)	M L1
1.1.6. b	$\frac{3.75}{15}$ × 100✓ M 25% ✓ CA	1M multiplying by 100 1A correct answer (2)	M L1
1.2 1	2 829 ÷ 1 000 = 2.89 kg ✓✓ C	2C Conversion (2)	M L1
1.2.2	15 lb ✓✓ A	2A correct weight (2)	M L1
1.3.1	Strip map ✓✓ A	2A correct answer (2)	MP L1
1.3.2	✓ ✓ A National roads and Regional / provincial roads	2A correct names (2)	MP L1
1.3.3	547 km ✓✓ A	2A correct distance (2)	MP L1

1.3.4	Namaqua national park ✓✓ A	2A correct answer (2)	MP L1
1.3.5	479 – 214 ✓ MA 265 km ✓ A	1MA subtraction 1A correct answer (2)	MP L1
		[29)	

QUESTION 2 (37 MARKS)			
Q	**Solution**	**Explanation**	**T & L**
2.1.1	Floor plan is the top view of the design and dimensions of the inside of Khanyi's container house. ✓✓ A OR Floor plan is the Aerial view of the design and arrangements of the inside of Khanyi's container house. ✓✓A	2A explanation (2)	MP L1
2.1.2	6 ✓✓ RT	2RT correct number (2)	MP L1
2.1.3	Length = (14 + 6) ÷ 3.28 ✓ C = 6.097 = 6.1 m ✓ A ✓ A 11.2 cm: 6.1 m ×100 ✓ CA 11.2: 610 ✓ C 1: 54.46… 1: 55 ✓ CA OR Length = (14 + 6) ÷ 3.28 ✓ C = 6.097 = 6.1 m ✓ A ✓ A ✓CA 112 mm : 6.1 m × 1000 ✓ C 112: 6 100 1: 54,46… 1: 55✓ CA	1 A dividing length by 3.28 1 CA correct answer 1A measured value 1CA correct order 1C conversion 1CA simplification Accept:**11,1 – 11,3 cm** 1 A dividing length by 3.28 1 CA correct answer 1A measured value 1CA correct order 1C conversion 1CA simplification Accept: **11.1 – 11.3 mm** NPR (6)	MP L2

2.1.4	Half a bath also known as a powder room contains a toilet and a basin, there is no bath tub or shower. ✓✓ A	2A Explanation (2)	MP L1
2.1.5	West ✓✓ A	2A direction (2)	MP L2
2.1.6	$\frac{1}{6}$ ✓ A ✓ A 0,17 ✓A	1A numerator 1A denominator 1 A correct answer (3)	P L2
2.2.1	Umlaas Road, 810m ✓✓RT	2 RT correct answer (2)	MP L2
2.2.2. a	11;30 ✓✓ RT	2RT correct answer (2)	MP L2
b	CUT OFF times are crucial to complete the race within a specific limit. ✓✓A	2A explanation (2)	MP L4
2.2.3	80km ✓✓ RT	2RT correct distance (2)	MP L1
2.3.1	Option 1 L= $\frac{12.19}{1.3}$ ✓ MA = 9.376… = 9 ✓ RT W = $\frac{2.44}{0.8}$ = 3.05 = 3 ✓ A H = $\frac{2.60}{0.5}$ = 5.2 = 5 ✓ A Total = 9 x 3 x 5 = 135 coffee tables ✓A	1MA dividing 1R rounding down 1A simplification 1A simplification 1CA correct number of tables 1 A simplification	MP L4

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	Option 2 L/W $\frac{12.19}{0.8}$ = 15.2375 = 15 ✓ A W/L = $\frac{2.44}{1.3}$ = 1.876… = 1 ✓ A Total = 15 x 1 x 5 = 75 coffee tables ✓ CA Option 1 will be cost effective ✓ O	1A simplification 1 CA correct number of tables 1O Conclusion (9)	
2.3.2	✓A $\frac{1}{2}$ x $\frac{1}{60}$ ✓ A $\frac{1}{120}$ ✓ CA	1A for correct value $\frac{1}{2}$ 1A for correct value $\frac{1}{60}$ 1CAcorrect answer (3)	P L2
		[37]	

QUESTION 3 [32 MARKS]			
Q	**Solution**	**Explanation**	**T & L**
3.1.1	Radius = $\frac{300}{2}$ ✓ A $= \frac{150}{1000}$ $= 0.15\ m$ ✓ C	1 A calculating radius 1C conversion (2)	M L 2
3.1.2	Area of a triangle = $\frac{1}{2} \times b \times h$ $= \frac{1}{2} \times 2.5 \times 3$ ✓ SF $= 3.75\ m^2$ ✓CA Area of a Rectangle = 5.5×3 $= 16.5\ m^2$ ✓CA Area of a circle = $3.142 \times (0.15)^2$ $= 0.070695\ m^2$ ✓CA Total area = 3.75 + 16.5 - 0.070695 ✓ MCA = 20.179305✓ CA $\approx 20\ m^2$	1SF substitution 1 CA area of triangular part 1CA area of rectangular part 1CA area of circular part 1MCA adding 3 areas 1CA correct answer (6)	M L3
3.1.3	Circumference of hole = $2 \times 3.142 \times 0.15$ ✓SF = 0.9426 m ✓ CA Circumference of tree = 0.99 m The hole will be small ✓O OR	1SF substitution 1CA circumference of hole 1O Verification 1M dividing by 3,142	M L4

	Diameter of tree = $\frac{0.99}{3.142}$ ✓ M = 0.31508… = 315 mm ✓CA The hole will be small ✓O	1CA circumference 1O verification (3)	
3.1.4	Area of a strip = $1.2 \times \frac{18}{100}$ ✓ C = 1.2×0.18 = 0.216 m^2 ✓CA Total number of strips = $\frac{21}{0.216}$ ✓ CA = 97.222… = 98 strips ✓ CA Statement is valid ✓O OR ✓A ✓ M Total no. of strips = $\frac{7}{0.18} \times \frac{3}{1.2}$ ✓ CA = 97.222… = 98 strips ✓CA The statement is valid. ✓ O	1 C conversion of width of strip 1CA area of strips 1CA dividing by area of strips 1CA number of strips 1O Justification 1A area of the deck 1M multiplication 1CA for dividing by area of strips 1CA number of strips 1O Justification (5)	M L4
3.1.5	Number of packs = 98 ÷ 10✓ MCA = 9,8 =10 ✓CA Total cost = 10 × R149,90 ✓ MA = R1499 ✓ CA ≈ R1500 ✓ R	1MCA dividing by 10 1CA correct answer 1MA multiplying with rate 1CA simplification 1R correct rounding (5)	M/F L3

3.1.6	✓A P of edge of deck = 5.5m + 3m + 5.5m + 2.5m + 3.9m = 20.4 m ✓CA No, it will not be enough ✓O	1A adding all values 1 CA correct answer 1O verification (3)	M L4
3.2.1	L= 1.8m, a = 1,500mm ÷ 1000 = 1,5m b = 1300mm÷1000 = 1,3m h= 0,8m ✓ C Volume = ½ (a + b) × h × L = ½ (1,5m + 1.3m) × 0.8m × 1,8m ✓ SF = 2.016m^3 = 2 m^3✓ CA He is correct. ✓	1C correct conversion 1SF substitution 1CA simplification NPR (4)	M L4
3.2.2	Area of = $\frac{1}{2}$ × (sum of parallel sides) × height = $\frac{1}{2}$ × (1.5m + 1.3m) × 0.8m ✓ SF ✓S =1,12m^2 × 2 ✓A = 2.24m^2 ✓ CA	1 SF simplification 1S simplification 1A multiplying by 2 1 CA correct answer (4)	M L3
		[32]	

QUESTION 4 [22 MARKS]			
Q	**Solution**	**Explanation**	**T & L**
4.1.1	Capacity is the maximum amount of people that can be accommodated inside Stade de France ✓✓A	2A correct definition (2)	MP L 1
4.1.2	✓✓A Eighty-one thousand three hundred and thirty-eight people	2A writing in words (2)	MP L1
4.1.3	✓A $H^2 = \frac{103}{29.8}$ ✓SF H $= \sqrt{\frac{103}{29.8}}$ H = 1.8591…m S H = 1.86 m H = 186 cm✓ CA	1A changing the subject of the formula 1 SF substitution 1A simplification 1CA correct answer (4)	M L2
4.1.4	Area of the field = 119× 75 ✓ SF = 8 925m^2 ✓ CA Cost = 40 × 8 925 m^2 ✓ A = € 357 000 × 20.36 ✓ A = R 7 268 520 ✓ CA	1 SF substitution 1CA Area of the field 1A multiplying by 40 1A multiplying by 20,36 1CA correct answer (5)	M/F L2
4.2.1	D = s x t A✓ time = $\frac{35km}{80km/h}$ ✓ SF = 0.4375 hrs ✓ S = 0hrs 26 min 15 sec ✓ C	1A changing the subject 1SF substitution 1S simplification 1C conversion of time (4)	MP L2

4.2.2	1. Start from L'Isle-Adam and head south west on D64. ✓ A 2. Merge onto A16 and turn right toward Paris. ✓ A 3. Continue on A16, passing through N104. ✓ A 4. Take the right exit onto N1 after passing Garges – Les - Gonesse. ✓ A 5. Continue on N1 turn left into Stade de France. A	1A head south west on D64 1A turn into A16 and turn right 1A passing D104 Take right exit from N1 1A turn left (5)	MP L4
		[22]	

QUESTION 5 [30 MARKS]			
Q	**Solution**	**Explanation**	**T&L**
5.1.1	9918mm to m = $\frac{9918}{1000}$✓M = 9.918m✓A	1M Method of dividing 1A Answer (2)	M L1
5.1.2	Area of the car port = $2(\frac{1}{2} \times 5000mm \times 1311mm) + (6500mm \times 5000mm)$✓SF = 39 055 000$mm^2$✓S Area in m = $\frac{39\,055\,000}{1000\,000}$✓C = 39.055$m^2$✓CA OR ✓C Area of the car port = $2(\frac{1}{2} \times 5m \times 1.311m) + (6.5m \times 5m)$✓SF = 6,555$m^2$ + 32,5m^2✓S = 39.055m^2✓CA	1SF Correct Substitution 1S Simplification 1C Conversion 1 CA Simplification (4)	M L2
5.1.3	Area of a Tile = 400mm× 400mm = 160 000mm^2✓A Area of a tile in m^2 = $\frac{160\,000mm^2}{1000\,000}$✓C = 0.16$m^2$✓A	1A Simplification 1C Conversion 1A Simplification	M L3

	No. Of tiles required = $\frac{39.055m^2}{0.16m^2}$✓MA = 244.0937 tiles ≈ 245 tiles ✓A	1MA Dividing area of carport by area of tile 1A Simplification (5)	
5.2.1.	Surface Area of a Cylinder = $2\pi rh$ = $2\times 3.142 \times 0{,}135m \times 1.8m$✓C ✓SF = 1,527012 m^2✓CA = $1.53m^2$✓R For 4 pillars = $1.53m^2 \times 4$✓M = $6.12m^2$✓CA	1SF Substituting correct values 1C Conversion 1CA Simplification 1 R Rounding 1M Multiplying by 4 1CA Simplification (6)	M L3
5.2.2.a	Area of a sheet = 0.3 $m \times 0.5m$✓M = $0.15m^2$✓A No of Sheets = $\frac{6.12m^2}{0.15m^2}$✓MA = 40.8 sheets = 41 sheets✓A	1M Calculating area 1A Simplification 1MA dividing correct values 1A Rounded Answer (4)	M L3
5.2.2. b	Total cost = $41 \times R584.95$✓M = R23982.95✓A	1M Multiplying correct values 1A Answer (2)	M L2

5.3.1	Area occupied by two cars = 1910 $mm \times 3540mm \times 2$✓MA = 13522800$mm^2$✓A Area of the rectangular part of the carport = 6500$mm \times 5000mm$ =32 500 000mm^2✓ Area remaining = 32 500 000mm^2 − 13 522 800mm^2✓M = 18 977 200mm^2✓CA Area for one car = $\frac{13\ 522\ 800mm^2}{2}$ = 6 761 400mm^2✓A Basil is correct, the remaining area is enough to fit the third car✓A	1MA Multiplying correct values 1A Simplification 1CA Simplification 1M Subtracting 1CA Simplification 1A Correct area for one car 1O Opinion (7)	MP L4
		[30]	
		TOTAL: 150	

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