KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY P2

PREPARATORY EXAMINATION

MEMO

SEPTEMBER 2024

MARKS: 150

SYMBOL	EXPLANATION
MA	Method with accuracy
MCA	Method with continued accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT	Reading from a table/ graph/ diagram/Map
SF	Correct substitution in a formula
O	Opinion/ reason/deduction/example/Explanation
P	Rounding off
F	deriving a formula
AO	Answer only full marks
NPU	Penalty e.g. for units, incorrect rounding off etc.
NPR	No penalty for rounding/units

This marking guideline consists of 10 pages.

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QUESTION 1[30 MARKS]ANSWER ONLY FULL MARKS			
Quest.	**Solution**	**Explanation**	**T & L**
1.1.1	✓A ✓A Analogue and digital clocks	2A Correct answer (2)	M L1 E
1.1.2	✓A ✓A AM and PM time notation/format	2A Correct answer (2)	M L1 E
1.1.3	Time = 22:11 ✓✓RT	2RT correct format (2) **Accept: 22:12**	M L1 E
1.1.4	Speed = 75mi/h✓✓RT	2RT correct answer **Accept: 75** (2)	M L1 E
1.1.5	Temperature = 80 ^{0} F✓✓RT	2RT correct answer (2)	M L1 E
1.2.1	✓MA Total = (3 × 4) + 18 +18✓MA = 48✓CA	1MA Multiplying by 3 1MA adding correct values. 1CA answer (3)	MP L1 E
1.2.2	Part D ✓✓RT	2RT correct answer (2)	MP L1 E
1.2.3	Step 5✓✓RT	2RT correct answer (2)	MP L1 E
1.2.4	Step 1 Attach part B to A ✓RT Step 2 Attach part D to A ✓RT Step 3 Place part C onto B and D✓RT **OR** Step 1 Attach part B to C ✓RT Step 2 Attach part D to C ✓RT Step 3 Place part A onto B and D✓RT	3RT correct answer (3)	MP L1 E
1.3.1	East✓✓RT	2RT correct answer (2)	M L1 E
1.3.2	Kitchen/Dining room ✓✓RT	2RT correct answer (2)	M L1 E
1.3.3	Width = 2,88m + 1,20m + 2,83m✓MA = 6,91m✓A	1MA adding correct value 1A correct answer	M L1 E

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	OR Width = 4,08 + 2,83✓MA = 6,91m✓A	(2)	
1.3.4	5 windows✓✓RT	2RT correct answer (2)	M L1 E
1.3.5	No window in the bathroom or utility room. ✓✓RT **OR** Entrance to utility room is from the bathroom ✓✓RT **OR** Toilet is positioned on the inside wall. ✓✓RT	2RT correct answer (2)	M L1 E
		[30]	

QUESTION 2 [30 MARKS]

Quest.	**Solution**	**Explanation**	**T & L**
2.1.1	A layout plan shows the top /aerial/birds eye view and the arrangement of the wedding venue ✓✓O	2O correct explanation (2)	MP L1 E
2.1.2	Line/Graphic scale✓✓A	2A correct answer (2)	MP L1 E
2.1.3	2,5cm ✓✓A **OR** 25mm✓✓A	2A measuring accurately **Accept 2,4 cm to 2,6cm** (2)	MP L1 E
2.1.4	2,5 cm on the plan represents 5m in reality✓✓O **OR** 25mm on the plan represents 5m in reality✓✓O	2O correct explanation (2)	MP L1 E
2.1.5	✓ MA Number of people = (13 × 10) + 9 + 12✓ MA = 151✓ CA	1MA multiplying 13 by 10 1MA adding 9 and 12 1CA answer (3)	MP L2 M

2.2.1	Length in cm = 98,43 ×2,54✓C = 250,01cm✓A Length in m = 250,01 ÷ 100✓MCA = 2,50m✓CA	1C conversion 1A answer 1MCA dividing by 100 1CA answer (4)	MP L2 M
2.2.2	Along the length = 15 ÷ 2,50✓ MCA = 6✓CA Along the width = 7,5 ÷ 2,50 = 3✓CA Number of tables = 6 × 3✓MCA = 18 tables✓CA	**CA from Q2.2.1** 1MCA dividing by 2,50 1CA answer 1CA answer 1MCA multiplying 1CA answer (5)	MP L2 M

2.3.1	Turn right and head north on R28 Krugersdorp and travel towards Pretoria City✓A Turn right onto N4 Witbank✓A Drive through Diamond Hill Toll Plaza✓A Turn right onto Exit 37 Valtaki Witfontein, Langverwacht farm is on the left.✓A	1A correct direction 1A correct direction 1A correct direction 1A correct direction (4)	MP L2 M
2.3.2	P(Snowing) = 0% ✓✓ A	2A correct answer (2)	P L2 E
2.3.3	P(Raining) $= \frac{2}{3}$ ✓A ✓A × 100%✓ MA = 66,67%✓CA	1A numerator 1A denominator 1MA multiply by 100% 1CA answer (4) **Accept $\frac{1}{3}$ = 33,33%**	P L2 E
		[30]	

QUESTION 3 [30 MARKS]

Quest.	Solution	Explanation	T &L
3.1.1	✓ SF ✓MA Perimeter of the pool cover = 2 (26 + 14) + 4 + 4 = 88m✓CA	1SF correct values 1MA adding 8m 1CA answer (3)	M L2 M
3.1.2	✓ SF ✓MA Area of the pool = (24 × 12) + (4 ×8) =320 m^2 ✓ CA ✓MA ✓MA Area of the pool cover = (26 × 14) + (10 × 4) = 404 m^2✓CA Times bigger = 404 ÷ 320✓MCA = 1,26 ✓CA	1SF correct values 1MA adding area 1CA answer 2MA adding 2m to each side 1CA answer 1MCA dividing by 320 1CA answer (8)	M L3 D
3.2.1	✓SF ✓MA Volume of water = (24×12 ×2) + (8×4×1) ✓SF = 608 m^3 ✓CA	2 SF correct values 1MA adding volumes 1CA answer **Accept 608 000 ℓ** (4)	M L2 M
3.2.2	Number of litres of water = 608 x 1000✓C = 608 000✓A Number of teaspoons = (608 000 ÷ 1000) × 1,5✓ MA = 912✓CA ✓MA Number of litres = (912 × 5) ÷ 1000✓C = 4,56 ✓CA	**CA from Q3.2.1** 1C Conversion 1A correct Answer 1MA multiplying by 1,5 1CA answer 1MA multiply by 5 1C dividing by 1000 1CA answer	M L3 D

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	OR Number of litres of water = 608 x 1000✓C = 608 000✓A Number of ml of chlorine $= \frac{608000 \times 7,5}{1000} \checkmark MA \checkmark MA$ = **4 56**0ml✓CA Number of Litres $= \frac{4560}{1000} \checkmark MA$ = **4,56**✓CA	(7)	
3.3.1	Number of litres of water = 9 × 3,78541 ✓C = 34,07✓A	1C Conversion 1A answer (2)	M L2 M
3.3.2	Number of minutes = 608 000 ÷ 34,07✓MCA = 7 845,61✓CA Number of hours = 17 845,61 ÷ 60✓C =297,43✓CA Number of days = 297,43 ÷ 24✓C =12,39 days =13 ✓R	**CA from Q3.3.1** 1MCA dividing by 34,07 1CA answer 1C dividing by 60 1CA answer 1C dividing by 24 1R rounding (6)	M L3 D
			[30]

QUESTION 4 [30 MARKS]			
Quest.	**Solution**	**Explanation**	**T &L**
4.1.1	✓ SF ✓M A ✓SF Area of metal border = $(3{,}142 \times 57^2) - (3.142 \times 50^2)$ $= 2\ 353{,}36\ cm^2$✓CA	2SF correct values 1MA subtracting area 1CA answer (4)	M L3 M
4.1.2	✓ SF SA = $(3{,}142 \times 50^2) + (2 \times 3{,}142 \times 50 \times 25)$ $= 15\ 710\ cm^2$✓A Total area = 2 353,36 + 15 710✓MA $= 18\ 063{,}36 cm^2$✓CA Convert to m^2 = 18 063,36 ÷ 100^2 ✓C = 1,806336✓CA Including 10% = 1,806336 × 1.10✓MA $= 1{,}986 m^2$ $= 1{,}99\ m^2$ Siya's claim is **CORRECT**✓O	**CA from Q4.1.1** 1SF correct values 1A correct answer 1M A adding area 1CA answer 1C Conversion 1CA answer 1MA multiplying by 1.10% 1O opinion (8)	M L4 D
4.1.3	✓MCA ✓MA Number of litres = (1,99 × 2) ÷ 5 = 0,796 litres✓CA = 1 litre✓R	**CA from Q4.1.2** 1MCA multiplying by 1,99 1MA dividing by 5 1CA answer 1R rounding (4)	M L2 M

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4.2.1	Fixed cost = R800+R650✓MA = R1 450 Cost price = (530÷2) +199✓MA = R464 ✓A ✓A ✓A Total Expense = R1 450 + (R464 × number of fire pits)	1MA adding correct values 1MA dividing by 2 and adding 199 1A for R1 450 1A for R464 1A number of fire pits (5)	M L3 M
4.2.2a	✓ A ✓A 2,7 fire pits; R2700	2A correct values (2) **Accept 3; R 2 700**	M L2 M
4.2.2b	Income made selling the fire pits is equal to expenses incurred in making the fire pits✓✓O	2O explanation (2)	M L1 E
4.2.3	✓RT ✓MA ✓MA Profit = (R1000×15) – (1450 +R464 × 15) = R6 590✓CA Siya is INCORRECT✓O	**CA from Q4.2.1** 1RT selling price 1MA subtracting 1450 1MA subtracting cost 1CA answer 1O opinion (5)	M L4 M
		[30]	

QUESTION 5 [29 MARKS]			
Quest.	**Solution**	**Explanation**	**T & L**
5.1.1	Distance in miles = 4158 ×1,151 ✓C = 4785,858 ✓A Distance in km = 4785,858 ÷ 0,6215 ✓C = 7700,50 km ✓CA	1C conversion 1A correct answer 1C conversion 1CA correct answer (4) **NPR**	MP L2 M
5.1.2	Time in hours = 10 ÷ 60✓ C = 0,167✓ A Speed = 7700,50 km ÷ 13,167 hours✓ MA = 584,83 km/h✓CA	**CA from Q5.1.1** 1C conversion 1A correct answer 1MA dividing by 13,167 1CA answer (4)	MP L3 M
5.1.3	Number of people per km^2= 2 900 000 ÷ 1285,3✓ MA = 2 256,28258 = 2 256✓A	1MA dividing by 1285,3 1A correct answer (2)	MP L1 M
5.2.1	Distance on map = 9,8 cm ✓A ✓MCA ✓C Actual Distance: = (9,8 cm × 2 000 000) ÷ 100 000 = 196 km ✓CA	1A measuring distance 1MCA multiplying by scale 1C convert to km 1CA simplification (4) **Accept 9,7cm to 9,9 cm**	MP L3 M

5.2.2	Cost of train trip = €52 ÷ €0,049 ✓C = R1 061,22 ✓A Fraction of the cost = 1 061,22 ÷ 2697 ✓ MA =0,39 ✓CA Mia's claim is **INCORRECT** ✓O	1C Conversion 1A correct answer 1MA dividing by 2697 1CA answer 1O opinion (5)	MP L4 D

5.2.3	Return trip = 60,9 × 2 ✓ MA = 121,8 km ✓ A Litres of petrol = (121,8 × 6,6) ÷ 100 ✓ MA = 8,0388 litres ✓ CA Cost = €1,865 × 8,0388 ✓ MCA = €14,99 ✓ CA	1MA multiplying by 2 1A correct answer 1MA multiplying by 6,6 and dividing by 100 1CA answer 1MCA multiplying by 8,04 1CA answer (6)	MP L3 D
5.2.4	Time in mins = 75+45+75+90 ✓ MA =285 mins ✓ A Time in hours and mins= 285 ÷ 60 ✓ C = 4 hours 45mins ✓ CA Arrival Time = 13:45 + 4hours 45mins ✓ MCA =18:30 Statement is **CORRECT** ✓O	1MA adding time 1A correct answer 1C Conversion 1CA convert to hours and mins 1MCA adding time 1O opinion (5)	MP L4 D
		[30]	

TOTAL MARKS: 150

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