FINAL

KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY P2

MARKING GUIDELINES

PREPARATORY EXAMINATION

SEPTEMBER 2025

MARKS: 150

SYMBOL	EXPLANATION
MA	Method with accuracy
MCA	Method with consistent accuracy
CA	Consistent Accuracy
A	Accuracy (Answer)
C	Conversion
S	Simplification
RT	Reading from a table/ graph/ diagram/map
SF	Correct substitution in a formula
O	Opinion/ reason/deduction/example/Explanation
R	Rounding off
F	deriving a formula
AO	Answer only
P	Penalty e.g. for units, incorrect rounding off etc.
NPR	No penalty for correct rounding
NPU	No penalty for omitting unit, but wrong unit is penalised
RCA	Rounding with consistent accuracy

This marking guideline consists of 12 pages

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NOTES:

- 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.

QUESTION 1[28 MARKS] ANSWER ONLY FULL MARKS			
Quest.	**Solution**	**Explanation**	**T & L**
1.1.1	C ✓✓RT	2RT correct answer (2)	M L1 E
1.1.2	A✓✓RT	2RT correct answer (2)	MP L1 E
1.1.3	G ✓✓RT	2RT correct answer (2)	M L1 E
1.1.4	B✓✓RT	2RT correct answer (2)	MP L1 E
1.1.5	E✓✓RT	2RT correct answer (2)	P L1 E
1.2.1	Number of mℓ = 0,33 ×1000 ✓MA = 330✓A	1MA multiplying by 1000 1A correct answer (2)	M L1 E
1.2.2	✓MA Number of cups = (1,5×1000) ÷ 250✓MA = 6✓A **OR** ✓MA Number of cups = 1,5 ÷ (250÷1000)✓MA = 6✓A	1MA multiplying by 1000 1MA dividing by 250 1A correct answer **OR** 1MA dividing 250 by 1000 1MA dividing 0,25 1A correct answer (3)	M L1 E
1.2.3	Radius = 11 ÷ 2✓MA = 5,5 cm✓A	1MA dividing by 2 1A correct answer (2)	MP L1 E
1.2.4	B✓✓A	2A correct answer (2)	MP L1 E

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1.3.1	11 seats✓✓RT	2RT correct answer (2) **Accept 7**	M L1 E
1.3.2	H9 ✓✓RT	2RT correct answer (2)	M L1 E
1.3.3	14 seats✓✓RT	2RT correct answer (2)	M L1 E
1.3.4	✓MA Time the show will end = 19:00 + 2hours +(15mins×2) = 21:30✓A = 9:30pm✓A	1MA adding time 1A correct answer 1A correct time and format (3)	M L1 E
		[28]	

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QUESTION 2 [33 MARKS]			
Quest.	**Solution**	**Explanation**	**T & L**
2.1.1	The key to the map makes it easy to read, locate roads, landmarks and navigate.✓✓O **OR** It explains the meaning of the symbols and labels, helping the reader identify landmarks and roads accurately.✓✓O	2O correct explanation (2)	MP L1 E
2.1.2	Between Hilton Hotel and the Workshop✓✓RT **OR** Opposite Hilton Hotel and the Workshop✓✓RT **OR** Between the ICC and the Workshop ✓✓RT **OR** Opposite Sahara Stadium, next to the Hilton Hotel✓✓RT **OR** Between North Plaza and South Plaza parking Areas✓✓RT	2RT correct answer (2)	MP L1 E
2.1.3	Braam Fischer Road✓✓RT	2RT correct answer (2)	MP L1 E
2.1.4	North West✓✓A	2A correct answer (2)	MP L1 E
2.1.5	6,7cm ✓A 6,7 cm = 300 m ✓A 6,7cm = 30 000 cm✓C 1: 4 477,61✓S	1A measuring accurately 1A concept of scale correct order 1C Conversion 1S Simplification **Accept leeway of 1mm or 0,1 cm** **NPR** (4)	MP L3 E
2.1.6	✓ A P(North Plaza) $= \frac{1}{5} \times 100\%$✓MA ✓A = 20%✓CA	1A numerator 1A denominator 1MA multiply by 100% 1CA correct answer (4)	P L2 M

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2.2.1	Time = 3,5 hours Speed = $\frac{21{,}1\text{km}}{3{,}5}$ ✓SF = 6,03 km/hour ✓CA	1SF substitution 1CA answer (2)	MP L2 M
2.2.2	✓✓RT 100m✓ A	2RT correct answer 1A units (3)	MP L1 E
2.2.3	Time = 64 minutes Average Pace = $\frac{64\text{ minutes}}{21{,}1\text{ km}}$ ✓MA = 3,03 minutes/km✓CA	1MA dividing 64 by 21,1 1CA answer (2)	MP L2 M
2.2.4	Altitude at 5km = 75m Altitude at 15km = 175m Change in Altitude = 175m -75m✓MA = 100m Altitude increase per km = 100 ÷ 10✓MCA = 10m/km Statement is **CORRECT**✓O	1MA subtracting heights 1MCA dividing by 10 1O Conclusion (3)	MP L4 M
2.2.5	Predicted finishers for 2025 = $\frac{14\,934}{16\,000}$ ✓✓A×17 500✓MA = 16 334✓A	1A numerator 1A denominator 1MA multiply by 17 500 1A correct answer (4)	P L2 E
2.2.6	The elevation plan shows the height above sea level at a certain distance.✓✓✓O **OR** Helps to prepare runners by knowing the steep climbs/descents to decide if the route matches their fitness level.✓✓✓O **OR** Identifying steep/dangerous areas to avoid accidents.✓✓✓O	3O correct explanation (3)	MP L2 M
		[33]	

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QUESTION 3 [27 MARKS]			
Quest.	**Solution**	**Explanation**	**T &L**
3.1.1	Perimeter of the frame = 2(418,5 cm + 307,2 cm)✓ SF = 1451,4 cm✓A = 1451.4 cm ÷ 100✓C =14,514✓CA m✓A	1SF correct substitution 1A correct answer 1C Conversion 1CA answer 1A for unit (5)	M L2 M
3.1.2	Convert to metres = 20 × 0,305 = 6,1m ✓ A ✓MA Number of lengths required = 14,514 m + (3 ×2,1 m) = 20,814m ÷ 6,1✓ MCA = 3,41 = 4✓R	**CA from 3.1.1** 1A correct answer 1MA multiplying 3 by 2,1 1MCA dividing by 6,1 1R rounding (4)	M L3 M
3.1.3	✓ MA Number of PVC sheets = 418,5 cm ÷ (60cm – 5cm)✓ MCA = 7,6✓ CA = 8✓ R	1MA subtracting 5 from 60 1MCA dividing by 55 1CA correct answer 1R rounding (4)	M L3 D

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3.2.1	Total length of the garage = 3,65 m + 3,65m = 7,3 m✓A Spaces between the cars = 3 × 0,7m = 2,1 m ✓A Width of the car = 7,3 m – 2,1 m = 5,2 m✓ A = 5,2m ÷ 2✓ MCA = 2,6m✓CA	1A for width of the garage 1A for width of spaces 1A correct answer 1MCA dividing by 2 1CA answer (5)	M L3 M
3.2.2	✓MA Area of garage = (3,65m + 3,65m) × 6,7m ✓SF = 48,91m^2✓A	1MA adding correct values 1SF substitution 1A answer (3)	M L2 M
3.2.3	✓C Convert to metres = 50 ÷100 = 0,5m Area of 1 tile = 0,5 m × 0,5 m = 0,25 m^2✓A Number of tiles = 48,91 m^2 ÷ 0,25 m^2✓MCA = 195,64✓CA Number of boxes = 195,64 ÷8✓MCA = 24,46 =25✓R	**CA from Q3.2.2** 1C dividing by 100 1A area of tile 1MCA for dividing 1CA answer 1MCA dividing by 8 1R Rounding (6)	M L4 M
		[27]	

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QUESTION 4 [31 MARKS]

Quest.	Solution	Explanation	T &L
4.1.1	Diameter of Big Circle = 76” Radius of big circle = 76” ÷2 = 38” ✓A ✓ MA diameter of small circle = 76”-24”-24” = 28” ✓ A radius of small circle = 28” ÷2= 14” ✓A Circumference of table = [(2 x3,142×38”) + (2 x3,142×14”)] ÷2 + (76” - 28”)✓ SF = 211,384” ✓ CA **OR** Diameter of Big Circle = 76” Radius of big circle = 76” ÷2 = 38” ✓A ✓ MA diameter of small circle = (76” ÷2) -24” = 28” ✓ A radius of small circle = 28” ÷2= 14” ✓A Circumference of table = [(2 x3,142×38”) + (2 x3,142×14”)] ÷2 + (76” - 28”)✓ SF = 211,384” ✓ CA	1A correct answer 1MA subtracting 48 1A correct answer 1A correct answer 1SF substitution 1CA correct Answer **OR** 1A correct answer 1MA dividing by 2 and subtracting 24 1A correct answer 1A correct answer 1SF substitution 1CA correct Answer (6)	M L4 M

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4.1.2	Radius of Big Circle = 38" × 2,54 ✓C = 96,52 cm Radius of small circle = 14" × 2,54 = 35,56 cm **Area = area of big circle – area of small circle** Area of big circle = 3,142 × (96,52cm)²✓ SF = 29 271,2188768 cm² Area of small circle = 3,142 × (35,56cm)² ✓ SF = 3973,1017312cm² Area = (area of big circle – area of small circle) ÷ 2 ✓MCA =(29 271,2188768 cm² -3973,1017312cm²) ÷ 2 ✓MA = 12 649,06 cm² Convert to m² = 12 649,06 ÷ 100² ✓C = 1,26✓CA Claim is **INCORRECT**✓O **OR** Radius of Big Circle = 38" × 2,54 ✓C = 96,52 cm ÷ 100✓C = 0,9652m Radius of small circle = 14" × 2,54 = 35,56 cm ÷ 100 =0.3556m **Area = area of big circle – area of small circle** Area of big circle = 3,142 × (0,9652m)²✓ SF = 2,9271218877 m² Area of small circle = 3,142 × (0.3556m)² ✓ SF = 0,3973101731m²	**CA from Q4.1.1** 1C Conversion 1SF substitution 1SF substitution 1MCA for subtracting 1MA for dividing by 2 1C for conversion 1CA answer 1O Opinion **OR** 1C Conversion 1C Conversion 1SF Substitution 1SF substitution	M L4 D

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	Area = (area of big circle – area of small circle) ÷ 2 ✓MCA =(2,9271218877 m^2 -0,3973101731m^2) ÷ 2 ✓MA = 1,26✓CA Claim is **INCORRECT**✓O	1MCA subtracting 1MA dividing by 2 1CA answer 1O Opinion (8)	
4.2.1	Number of litres = 32 ×0,03 = 0,96ℓ✓A Convert to cm^3 = 0,96 ×1000✓MA = 960 cm^3 960cm^3 = 3.142×r^2 ×19✓SF 960 cm^3 ÷ (3,142 ×19 cm) = r^2✓MA $\sqrt{16,08}$ = r^2✓MCA 4,01 cm = r✓CA Diameter = 4,01cm ×2✓MCA = 8,02cm✓CA	1A for correct litres 1MA multiplying by 1000 1SF correct substitution 1MA changing subject of the formula 1MCA square root 1CA answer 1MCA multiply by 2 1CA answer (8)	M L3 D
4.2.2	Width = 8,02cm +2cm ✓MCA =10,02cm✓CA Height =19cm+3cm +2cm ✓MCA = 24cm✓CA	**CA Q4.2.1** 1MCA adding 2 1CA answer 1MCA adding 5cm 1CA answer (4)	M L2 E
4.2.3	Surface Area Rectangular Prism = ✓SF 2(10,02cm × 10,02cm) + 2(10,02cm × 24cm) + 2(10,02cm× 24cm) ✓SF = 1162,72 cm^2✓CA Convert to m^2 = 1162,72 cm^2 ÷100^2✓C = 0,12m^2✓CA	**CA from Q4.2.2** 1SF correct substitution 1SF substitution 1CA answer 1C dividing by 10 000 1CA answer (5)	M L3 M
		[31]	

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QUESTION 5 [31 MARKS]			
Quest.	**Solution**	**Explanation**	**T & L**
5.1.1	6335miles:10 228km✓ RT ✓ R 0,619: 1✓S **OR** 6335miles:10 228km✓ RT ✓ R 1: 1,615 ✓S	1RT for both correct values 1S simplifying 1R Rounding **OR** 1RT for both correct values 1S simplifying 1R Rounding (3)	MP L1 D
5.1.2	9 countries ✓✓ RT	2RT correct answer (2)	MP L1 E
5.1.3	Bar/Line/Linear/graphic scale✓✓ A	2A correct answer (2)	MP L1 E
5.1.4	Scale 4,4 cm = 1000 km✓A Distance on map = 17,2 cm ✓A ✓MA ✓MCA Actual Distance: = (17,2 cm × 1000) ÷ 4,4 = 3 909,09km ✓CA **OR** Scale 44 mm = 1000 km✓A Distance on map = 172 mm ✓A ✓MA ✓MCA Actual Distance: = (172 mm × 1 000) ÷ 44 = 3 909,09km ✓CA	1A measuring scale 1A measuring distance 1MA multiplying by 1000 1MCA dividing by 4,41CA answer **OR** 1A measuring scale 1A measuring distance 1MA multiplying by 1000 1MCA dividing by 44 1CA answer **Accept leeway of 1mm or 0,1 cm** **NPR** (5)	MP L3 M
5.1.5	The distance measured on the map is an approximation or straight-line measurement while the real road distance is longer due to bends, detours and route variations. ✓✓O	2O correct explanation (2)	MP L4 E

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5.1.6	Time = 10 228 km ÷ 90 km/hour✓ MA = 113,64 hours✓A Time in days = 113,64 ÷ 12✓ MCA = 9,47 days✓CA = 10✓ R	1MA dividing by 90 1A correct answer 1MCA dividing by 12 1CA answer 1R rounding (5)	MP L3 M
5.1.7	$^{o}C = \frac{5}{9}(98^{0}F - 32)$✓SF =36,67°C ✓A =37°C ✓R	1SF substitution 1A correct answer 1R rounding (3)	MP L2 M
5.2.1	✓ C 64 000 000: 101 478 000✓ A ✓S 1:1,58559375	1C conversion 1A correct values and order 1S Simplification **NPR** (3)	MP L2 M
5.2.2	✓RT Number of people per km ^{2} = 101 478 000 ÷ 1 010 408✓MA =100,4326965 = 100 ✓A	1RT correct value 1MA dividing by 1 010 408 1A correct answer (3)	MP L2 M
5.2.3	✓MA Number of times bigger = 1 221 037km ÷ 1 010 408✓RT = 1,208 The claim is **CORRECT** ✓O	1MA dividing 1RT correct value 1O Opinion (3)	MP L4 M
		[31]	

TOTAL MARKS: 150

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