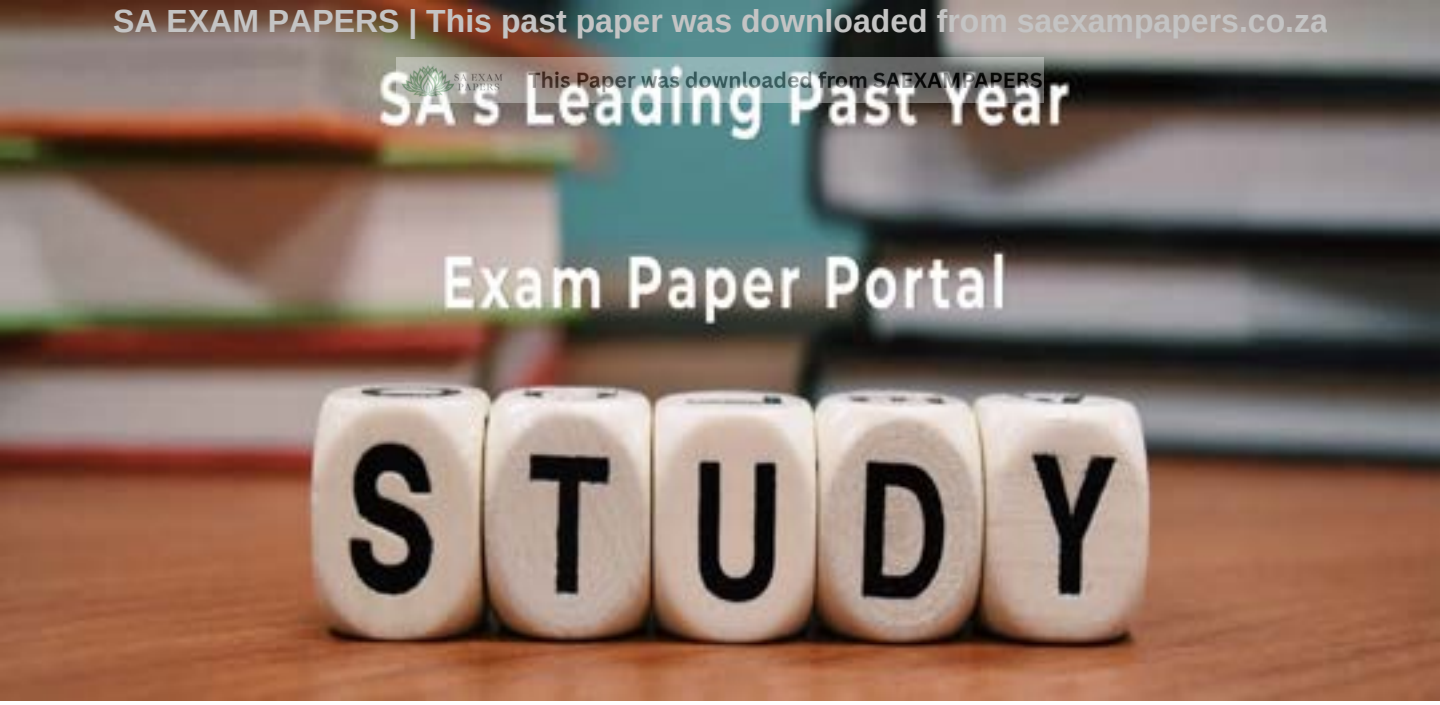

Province of the EASTERN CAPE EDUCATION

Iphondo leMpuma Kapa: Isebe leMfundo
Provinsie van die Oos Kaap: Department van Onderwys
Porafensie Ya Kapa Botjahabela: Lefapha la Thuto

NATIONAL SENIOR CERTIFICATE

GRADE 12

SEPTEMBER 2025

MATHEMATICAL LITERACY P2 MARKING GUIDELINE

MARKS: 150

Symbol	Explanation
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT	Reading from a table/graph/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/Reason
NPR	No penalty for correct rounding minimum two decimal places
AO	Answer only
MCA	Method with consistent accuracy
RCA	Rounding with consistent accuracy

This marking guideline consists of 11 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.
- If the candidate presents any extra solution when reading from a graph, table, layout plan and map, then penalise for every extra incorrect item presented.

KEY TO TOPIC SYMBOL:
F = Finance; M = Measurement; MP = Maps, plans and other representations; P = Probability

QUESTION 1 [27 MARKS] **ANSWER ONLY FULL MARKS**

Ques.	Solution	Explanation	Level
1.1.1	21 learners ✓✓A	2A number of learners (2)	MP L1
1.1.2	Ratio = 9 : 12 ✓A 3 : 4 ✓A	1A correct ratio 1A simplified form (2)	MP L1
1.1.3	5 windows ✓✓A	2A number of windows (2)	MP L1
1.1.4	Clockwise ✓✓A	2A correct direction (2)	MP L1
1.1.5	Longest side = 8,5 m × 1 000 ✓C = 8 500 mm ✓A	1C multiply by 1 000 1A answer in mm (2)	MP L1
1.2.1	Cost of one mℓ = $\frac{R15,00}{250}$ ✓M = R0,06 ✓A **OR 6c/ml**	1M dividing correct values 1A cost of one mℓ (2)	M L1
1.2.2	Size of largest cup = $\frac{500\ ml}{1\ 000}$ ✓C = 0,5 ℓ ✓A	1C divide by 1 000 1A answer in ℓ (2)	M L1
1.2.3	Capacity refers to the maximum amount of liquid the cup can hold.✓✓A	2A definition (2)	M L1
1.2.4	Capacity = $\frac{95}{100}$ × 500 mℓ✓M = 475 mℓ ✓A	1M multiply correct values 1A capacity in mℓ (2)	M L1
1.3.1	One unit on the map represents five units in reality. ✓✓A **OR** 1 cm on the map represents 5 cm in reality. ✓✓A	2A explanation (2)	MP L1
1.3.2	Diameter = 15,35 cm × 2 ✓M = 30,7 cm ✓A = 31 cm ✓R	1M multiply by 2 1A diameter 1R rounding (3)	M L1
1.3.3	Circumference of a circle = 2 × π × radius = 2 × 3,142 × 15,35 ✓SF = 96,4594 = 96,459 cm ✓A **(Accept 96,46 OR 96,5 cm)**	1SF substitution 1A circumference **NPR** (2)	M L1
1.3.4	Circumference refers to the total distance around the mirror.✓✓A	2A definition (2)	M L1
		[27]	

QUESTION 2 [28 MARKS]			
Ques.	**Solution**	**Explanation**	**Level**
2.1.1	Southwest **OR** SW ✓✓A West of south	2A correct direction (2)	MP L1
2.1.2	On courts seats = 4 ✓A Super row seats = 21 ✓A Decimal fraction = $\frac{4}{21}$ = 0,190… = 0,2 ✓R	1A number of on court seats 1A number of super row seats 1R correct rounding (3)	MP L1
2.1.3	Coming through the players entrance, walk straight until seat 5, ✓A then turn right and walk straight behind the cameras to seat 10. ✓A Turn right and walk straight to seat 15, turn right passing seat 15, 16 and 17 until seat 18. ✓A **(Accept any logical direction given)**	1A straight to seat 5 1A behind the cameras to seat 10 1A passing seat 15, 16 and 17 until seat 18 (3)	MP L2
2.1.4	The view from front row seats is clearer and uninterrupted. ✓✓A **OR** It gives the best view of performances. ✓✓A **(Accept any other relevant explanation)**	2A explanation (2)	MP L4
2.2.1	University of South Melbourne, Southbank ✓RT Australian Institute of Interns ✓RT	1RT first institution 1RT second institution (**Accept any order**) (2)	MP L2
2.2.2	Actual distance = 18,3 cm × 35 550 ✓M = 650 565 cm ✓A = $\frac{650\ 565}{100\ 000}$ ✓C = 6,50565 km ≈ 6,51 km ✓CA **(Accept 6,5 km OR 6,506 km)**	1M multiplying with scale 1A answer 1C dividing by 100 000 1CA actual distance **(NPR)** (4)	MP L2
2.2.3	Melbourne cricket ground ✓✓A	2RT correct place identified (2)	MP L2

2.2.4	Time spent walking $= \frac{2{,}7 \text{ km}}{20 \text{ km/h}}$ ✓SF $= 0{,}135$ hours $\times 60$ ✓A $= 8{,}1$ minutes ✓CA **OR** $\frac{1}{4} \times 33$ ✓M $= 8{,}25$ minutes ✓CA $\therefore \frac{8{,}1}{33} = 0{,}2454$ ✓M $= 0{,}25$ ✓CA ∴ The statement is valid ✓O	1SF substitution 1A time in hours 1C time in minutes 1M calculating a quarter of walking time 1CA answer 1O opinion (6)	MP L4
2.2.5	Walking is a great form of exercise. ✓✓A **OR** Walking limits air pollution caused by gas emissions from the car. ✓✓A **OR** Walking is free. Save on petrol cost. ✓✓A **OR** When you walk you can take short cuts and avoid traffic jams.✓✓A (**Accept any other relevant explanation**)	2A explanation (2)	MP L4
2.2.6	Probability $= \frac{2}{5}$ ✓A ✓A	1A numerator 1A denominator (2)	P L2
			[28]

QUESTION 3 [30 MARKS]

Ques.	Solution	Explanation	Level
3.1.1	Area of a rectangle = length × height = 4,75 m × 2,5 m ✓SF = 11,875 m^2 × 2 coats ✓M = 23,75 m^2 ✓A No of litres of paint = $\frac{23,75}{5,9}$ ✓M = 4,0254 litres ≈ 5 litres ✓R Cost of paint = 5 litres × R89,95 ✓M = R449,75 ✓CA **OR** Area of a rectangle = length × width = 4,75 m × 2,5 m ✓SF = 11,875 m^2 ✓A No of litres of paint = $\frac{11,875}{5,9}$ ✓M = 2,012711864 × 2 ✓M = 4,0254 ≈ 5 litres ✓R Cost of paint = 5 litres × R89,95 ✓M = R449,75 ✓CA	1SF substitution 1M multiply by 2 coats 1A area for 2 coats 1M dividing by spread rate 1R no of litres of paint 1M multiply with cost 1CA cost **OR** 1SF substitution 1A area of wall 1M dividing by spread rate 1M multiply by 2 coats 1R no of litres of paint 1M multiply with cost 1CA cost (7)	F L3
3.1.2	Length of wall = 4,75 m × 100 = 475 cm ✓C No of desks next to each other = $\frac{475}{145}$ ✓M = 3,2758 ✓CA ≈ 3 desks ✓R **OR** Length of desk = $\frac{145\text{ cm}}{100}$ = 1,45 m ✓C No of desks next to each other = $\frac{4,75}{1,45}$ ✓M = 3,2758…✓CA ≈ 3 desks ✓R	1C length in cm 1M divide by length of desk 1CA answer 1R rounding **OR** 1C length in m 1M divide by length of desk 1CA answer 1R rounding (4)	M L2

3.2.1	Width of page = $\frac{21}{100}$ ✓C = 0,21 m ✓A	1C divide by 100 1A width in meters (2)	M L1
3.2.2	Length of t-shirt tucked = $\frac{6,95}{100}$ × 8,9 cm ✓M = 0,61855 cm ✓A Length of t-shirt visible = 8,9 cm – 0,61855 cm ✓M = 8,28145 ≈ 8,28 cm ✓CA **OR** % of t-shirt visible = 100% – 6,95% ✓M = 93,05% ✓A Length of t-shirt visible = $\frac{93,05}{100}$ × 8,9 cm ✓M = 8,28145 ≈ 8,28 cm ✓CA	1M calculating 6,95% 1A length of t-shirt tucked 1M subtraction 1CA length of t-shirt visible **OR** 1M subtracting % 1A % of length of t-shirt visible 1M calculating 93,05% 1CA length of t-shirt visible (4)	M L2
3.2.3	Actual length of sportswear = 8,28 cm + 4 cm ✓M = 12,28 cm ✓CA ∴ Statement is invalid ✓O	**CA from 3.2.2** 1M addition 1CA length 1O opinion (3)	M L4
3.3.1	Obesity ✓✓RT	2RT correct weight status (2)	M L1
3.3.2	BMI = $\frac{82,5 \text{ kg}}{1,72^2}$ ✓SF = 27,8866… ✓S ≈ 27,887 kg/m^2 ✓R ∴ Her mother was correct ✓O	1SF substitution 1S simplification 1R rounding to three decimal places 1O opinion (4)	M L4
3.3.3	Eat less fatty food ✓✓A **OR** Eat regular, smaller meals ✓✓A **OR** Exercise ✓✓A **OR** Drink enough water ✓✓A **OR** Limit intake of fizzy drinks ✓✓A **(ANY TWO)** **(Accept any relevant answer)**	2A 1st method 2A 2nd method (4)	M L4
			[30]

QUESTION 4 [30 MARKS]

Ques.	Solution	Explanation	Level
4.1.1	Area of rectangle = length × width ✓C = 160 cm × 102,53 cm ✓SF = 16 404,8 cm^2 ✓CA **OR** Area of rectangle = length × width = 1 600 mm × 1 205,3 mm ✓SF = 1 640 480 mm^2 $\therefore \frac{1\,640\,480}{100}$ ✓C = 16 404,8 cm^2 ✓CA	1C conversion 1SF substitution 1CA area in cm^2 **OR** 1SF substitution 1C conversion 1CA area in cm^2 (3)	M L2
4.1.2	Scale = 30 mm : 1 600 mm $= \frac{30}{30} : \frac{1\,600}{30}$ ✓M = 1 : 53,33 ✓A **Accept 1:53 OR 1:53,3**	1M divide by 30 1A scale **NPR** (2)	MP L1
4.1.3	Length of container = $\frac{6{,}5\text{ m}}{1{,}605\text{ m}}$ ✓M = 4,049… ≈ 4 boxes ✓A Width of container = $\frac{2{,}5\text{ m}}{0{,}1\text{ m}}$ = 25 boxes ✓A Height of container = $\frac{2{,}9\text{ m}}{1{,}03\text{ m}}$ = 2,815… ≈ 2 boxes ✓A ∴ Total no. of boxes in container = 4 × 25 × 2 ✓M = 200 boxes ✓CA	1M dividing lengths 1A no. of boxes on length 1A no. of boxes on width 1A no. of boxes stacked 1M multiplication 1CA no. of boxes (6)	MP L3
4.1.4	Probability = $\frac{4\ \checkmark A}{200\ \checkmark A}$ × 100% = 2% ✓CA **If $= \frac{1}{50}$ × 100% = 2%** **ONLY 1 MARK**	**CA from 4.1.3** 1A numerator 1A denominator 1CA probability as % (3)	P L2
4.1.5	Total cost = R65 750 × 200 ✓M = R13 150 000 ✓CA	**CA from 4.1.3** 1M multiply with price 1CA total cost (2)	F L1

4.1.6	The protective material prevent damages to the plasma TV when transported. ✓✓A **OR** The protective material keeps the plasma TV from moving in the box and cause possible breakage. ✓✓A (**Accept any other relevant explanation**)	2A explanation (2)	MP L4
4.2.1	Diameter of bus tyre = $\frac{55}{5} \times 11$ ✓M = 121 cm ✓CA **OR** Diameter of bus tyre = $\frac{11}{5} \times 55$ ✓M = 121 cm ✓CA	1M dividing and multiplying 1CA diameter (2)	M L1
4.2.2	Radius = $\frac{55}{2}$ = 27,5 cm ✓M Volume of a cylinder = π × radius^2 × height = 3,142 × (27,5)^2 × 70 ✓SF = 166 329,625 cm^3 ✓CA **(Accept 166 329,6 OR 166 329,63 cm^3)**	1M finding radius 1SF substitution 1CA volume **NPR** (3)	M L2
4.2.3 (a)	No. of loads = $\frac{60}{15}$ ✓M = 4 loads ✓CA	1M dividing correct values 1CA no. of loads (2)	M L1
4.2.3 (b)	Total cost = R417 × 60 ✓M = R25 020 × 2 ✓M = R50 040 ✓A **OR R417 × 2 × 60 = R50 040**	1M multiply with cost 1M multiply by 2 1A total cost (3)	F L1
4.2.3 (c)	Preventing vehicle breakdown ✓✓A **OR** Maintaining the vehicle ensures safety of all passegers, including the driver ✓✓A **OR** Maintaining of vehicle prevents premature wear and tear ✓✓A **OR** Maintaining a vehicle helps to avoid expensive repairs when the vehicle breaks down. ✓✓A (**Accept any other relevant explanation**)	2A correct explanation (2)	M L4
			[30]

QUESTION 5			
Ques.	**Solution**	**Explanation**	**Level**
5.1.1	C **OR** TSA = π × radius^2 + (2 × π × radius × height) ✓✓A	2A correct answer (2)	M L1
5.1.2	Area of a cylinder = π × radius^2 $\frac{65}{3,142}$ = 3,142 × radius^2 ✓SF ✓M Radius^2 = 20,68746022 ∴ radius = $\sqrt{20,68746022}$ ✓M = 4,5483… = 4,55 m ✓CA **(Accept 4,548 OR 4,5 m)**	1SF substitution 1M dividing area with 3,142 1M finding square root 1CA radius **NPR** (4)	M L2
5.1.3	Volume of a cylinder = π × radius^2 × depth = 3,142 × 4,55^2 × 1,45 ✓SF = 94,31851975 m^3 ✓CA No. of litres = 94,3185… × 1 000✓C = 94 318,51975 litres No. of gallons = $\frac{94\ 318,51975}{3,785}$ ✓M = 24 919,02768 gallons ≈ 24 919,03 gallons ✓CA **(Accept 24 919 OR 24 919,028)**	**CA from 5.1.2** 1SF substitution 1CA volume in cm^3 1C converting to liters 1M dividing correct values 1CA no. of gallons **NPR** (5)	M L3
5.1.4	Rate = $\frac{24\ 919,03}{30\ 000}$ × 40 ✓M = 33,225 hours ✓CA ∴ Mr Rosseau's claim is VALID ✓O	**CA from 5.1.3** 1M dividing correct values and multiply by 40 1CA no. of hours 1O opinion (3)	M L4
5.2.1	Height of sugar = 17 cm – 1,5 cm ✓M = 15,5 cm ✓A	1M subtraction 1A answer (2)	M L1

5.2.2	TSA = π × radius^2 + (2 × π × radius × height) ✓M = 3,142 × 7^2 + (2 × 3,142 × 7 × 17) ✓SF = 901,754 cm^2 ✓CA TSA = (length × width) + 2 × (length × height) + 2 × (width × height) = (15 × 13,5) + 2 × (15 × 17) + 2 × (13,5 × 17) ✓SF = 202,5 + 510 + 459 = 1 171,5 cm^2 ✓S ✓M Difference in plastic used = 1 171,5 cm^2 – 901,754 cm^2 = 269,746 cm^2 ✓CA	1M finding the radius 1SF substitution 1CA answer 1SF substitution 1S simplification 1M subtraction 1CA answer (7)	M L3
5.2.3	0,8521 g/cm^3 = $\frac{\text{Mass (g)}}{3\,442,5}$ ✓SF = 3 442,5 cm^3 × 0,8521 g/cm^3 ✓MCA = 2 933,35425 ≈ 2 950 g ✓R	1SF substitution 1MCA multiplication 1R mass in grams (3)	M L2
5.2.4	Beautifying the product ✓✓A **OR** Eliminate rust on stainless steel ✓✓A	2A explanation (2)	M L4
5.3.1	Speed = $\frac{\text{Distance}}{\text{Time}}$ 75 km/h = $\frac{127\text{ km}}{\text{Time}}$ ✓SF Time = $\frac{127}{75}$ ✓M = 1,6933… hours ✓CA = 0,6933… × 60 ✓C = 41,6 minutes Time = 1 hour 42 minutes ✓S	1SF substitution 1M changing subject of formula 1CA time in hours 1C converting time 1S time in hours and minutes (5)	MP L3
5.3.2	Probability = $\frac{1}{2}$ ✓A ✓A	1A numerator 1A denominator (2)	P L2
			[35]
		TOTAL:	**[150]**