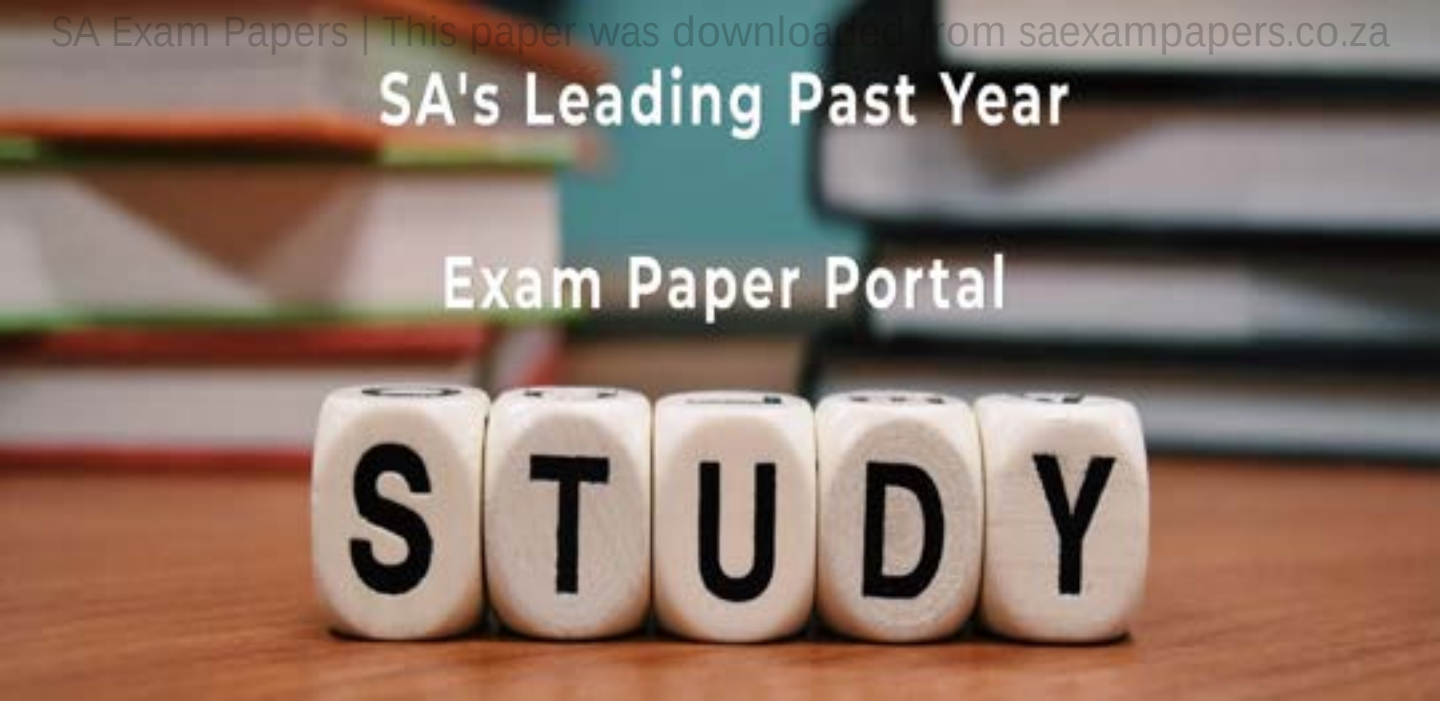

KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY P2

MARKING GUIDELINE
PREPARATORY EXAMINATION

SEPTEMBER 2023

MARKS: 150

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

This marking guideline consists of 10 pages.

QUESTION 1[30 MARKS] ANSWER ONLY AO FULL MARKS

Ques	Solution	Explanation	T & L
1.1.1	Total time =12:53 + 30 mins✓RT = 13:23✓A = 1:23 pm✓CA	1R Adding 30 min 1A correct answer 1CA format (3)	M L1
1.1.2	✓RT Cooking Time = 15 ÷ 60 ✓C $= \frac{1}{4}$ hours ✓A	1RT 15 minutes 1C dividing 1A correct answer **Accept 0,25 hours** (3)	M L1
1.1.3	✓RT Total sugar = (12 + 18) × 2✓MA = 60g ✓A	1RT adding correct values 1MA multiplying by 2 1A correct answer (3)	M L1
1.1.4	Number of Litres = 30 ml ÷ 1000✓C = 0,03✓A	1C Dividing by 1000 1A correct answer (2)	M L1
1.2.1	Total number of car parks =7✓✓RM	2RM correct answer (2)	MP L1
1.2.2	3 ✓✓RM	2RM correct answer (2)	MP
1.2.3	Layout plan of the airport shows location of terminals and parking lots✓✓E	2E correct explanation (2)	MP L1
1.2.4	✓RM R21 and R24 ✓RM	2RM correct answer (2)	MP L1
1.2.5	International and central terminal✓✓RM	2RM correct answer (2)	MP L1
1.3.1	Radius = 66,5 ÷ 2✓MA = 33,25 mm ✓A	1MA dividing by 2 1A correct answer (2)	M L1
1.3.2	500 ml :750ml✓MA 1:1,5✓S✓CA	1MA Correct order 1S simplification 1CA answer (3)	M L1
1.3.3	Capacity is the maximum amount of water that can fill each bottle. ✓✓O	2O Explanation (2)	M L1
1.3.4	750 ml bottle. ✓✓RT	2RT correct answer (2)	M L1
		[30]	

QUESTION 2 [30 MARKS]			
Ques	**Solution**	**Explanation**	**T & L**
2.1.1	✓MA Number of seats = (9 × 10) + 7 +5 ✓M =102 ✓CA	1MA multiplying by 10 1M adding correct values 1CA correct answer (3)	MP L2
2.1.2	Front seats in Row 20 have more leg space/room ✓✓O	2O explanation (2)	MP L4
2.1.3	2 Exits at the back of the plane ✓✓RM	2RM reading from plan. (2)	MP L2
2.1.4	Far from the Lavatory✓✓O	2O explanation (2)	MP L2
2.1.5	Seating plan is not drawn to scale.✓✓O	2O explanation (2)	MP L4
2.2.1	Bar scale/Line Scale/ Graphic Scale✓✓A	2A correct answer (2)	MP L1
2.2.2	South West✓✓RM	2RM correct direction. (2)	MP L1
2.2.3	Time = 26 – 18 ✓RM = 8 hours longer✓A	1RM subtracting & correct values. 1A correct answer (2)	MP L1
2.2.4	Arrival time = 2:53 + 2 hours✓RM = 4:53pm✓A	1RM and adding 2 hours 1A correct answer (2) **AO**	MP L1
2.2.5	Measure distance on map = 15.3 cm ✓A ✓M CA ✓MCA Actual distance: = (15.3 cm × 200 km) ÷ 2 = 1530 km ✓CA	**CA from 2.2.2** **Accept 1mm leeway** 1A measuring distance 1MCA multiplying by scale 1MCA dividing by 2 1CA simplification (4)	MP L2
2.3.1	Total = 113+87✓MA = 200✓A **OR** Total = 32+66+98+4✓MA =200✓A	1MA adding correct values 1A correct answer 1MA adding correct values 1A correct answer (2)	P L1
2.3.2	✓A P(Male, Afraid) $= \frac{11}{200} \times 100$ ✓A = 5,5%✓CA	**CA from 2.3.1** 1A number of males 1A total 1CA correct answer (3)	P L2
2.3.3	P(Female) $= \frac{87}{200}$ ✓A = 0,44✓CA	**CA from 2.3.1** 1A number of females 1CA correct answer (2)	P L2
		[30]	

QUESTION 3 [30 MARKS]

Ques	Solution	Explanation	T &L
3.1.1	Radius of long candle = 6 ÷ 2✓C = 3 cm✓A Radius of short candle = 5 ÷ 2 = 2,5 cm ✓SF ✓M Total Volume = $(3{,}142 \times 3^2 \times 10) + (3{,}142 \times 2{,}5^2 \times 8{,}5)$ = 449,70 cm^3✓CA	1C dividing by 2 1A correct answer 1SF substitution 1M adding volume 1CA total volume (5)	M L3
3.1.2	Volume = 449,70 cm^3 × 50✓MCA = 22 485 cm^3 ✓CA Litres = 22 485 ÷1000✓C = 22,485 litres✓CA Number of kg = 22,485÷1,304✓C =17,24 kg✓CA	**CA from Q3.1.1** 1MCA multiplying by 50 1CA answer 1C conversion 1CA answer 1C conversion 1CA answer **NPR** (6)	M L3
3.1.3	A set of candles = (10+2 cm) + (8,5 +2 cm) ✓MA = 22,5 cm✓A Total length = 22,5 × 50✓ MCA =1 125 cm ✓CA	1MA adding 8,5 cm and 2cm 1A length in cm 1MCA multiplying by 50 1CA answer (4)	M L2
3.1.4	✓SF ✓M Total Circumference = (3,142 × 6) + (3,142 × 5) = 34,562 cm✓A Ten times = 34,562 × 10✓M = 345,62 cm Total = 345,62 × 50✓M =17 281 cm Number of metres =17 281÷100✓C =172,81 Claim is INCORRECT✓CA	1SF substitution 1M Adding 1A correct answer 1M multiplying by10 1M multiply by 50 1C dividing by 100 1CA answer (7)	M L4

Ques	Solution	Explanation	T&L
3.2.1	✓MA Length = 2 + 5 + 2 + 8 + 2 + 5 + 2 ✓M = 26 cm✓A Breadth = 1+8+1 ✓M = 10 cm✓CA	1MA adding diameter 1M adding spacing 1A answer 1M adding spacing 1CA answer (5)	M L3
3.2.2	✓SF ✓ C Area = (26cm × 10 cm) ÷ 100^2 = 0,026m^2✓ CA **OR** ✓ C Area = 0, 26m × 0,1 m ✓SF = 0,026m^2✓ CA	**CA from Q3.2.1** 1SF substitution 1C conversion 1CA answer 1SF substitution 1C conversion 1CA answer (3)	M L2
		[30]	

QUESTION 4 [30 MARKS]

Ques	Solution	Explanation	T & L
4.1.1	✓MA Front of kennel:509 + (63×95) - (63×36) ✓MA = 4 226 cm^2✓A Back of kennel: 1140 + (63×95) =7 125 cm^2✓A Both sides: 2(63 × 99) = 12 474 cm^2✓A Both sides of the roof = 2(61×99) =12 078cm^2✓A Total = 4226 +7125+ 12 474 + 12 078✓M = 35 903 cm^2✓CA Claim is INCORRECT✓O	MA adding 509 to area 1MA subtracting area 1A answer 1A adding 1140 to area 1A area of both sides 1A both sides of the roof 1M adding 1CA total length 1O opinion (9)	M L4
4.1.2	Conversion = 35 903 ÷ 100m^2 ✓C = 3,5903 m^2✓A	**CA from 4.1.1** 1C conversion 1A correct answer (2)	M L3
4.2.1	Number of litres of paint = 3,5903 × 2✓M =7,1806m^2✓CA ✓ M Number of litres = (7,1806 × 5) ÷ 6 = 5,98 litres ✓CA	**CA from 4.1.2** 1M multiply by 2 1CA number of m^2 1M dividing by 6 1CA number of Litres (4)	M L3

Ques	Solution	Explanation	T & L
4.2.2	First Coat = 09:30 + 2h ✓MA = 11:30 Start of Second Coat = 11:30 + 12 hrs ✓M = 23:30 ✓CA	1MA adding 2 hours 1M adding 12 hours 1CA time **Accept** **00:30 OR 01:30** (3)	M L2
4.3.1	Number of pounds = 5 000÷ 0,454 ✓C = 11 013,22 lbs✓A Category : over 100 lbs ✓A	1C conversion 1A pounds 1A correct category (3)	M L2
4.3.2	Over 100 lbs = 11 013,22 – 100✓M = 10 913,22 ✓M Max number of grams = 4,5+ (10 913,22 ÷ 10) × 0,25 = 277,3305 × 226,8 = 62 898,56 g ✓CA	1 M subtracting 100 1 M for dividing by 10 1CA correct Answer (3)	M L2
4.3.3	Number of cups = (4,5) +0,25+0,25✓ MA = 5 cups ✓ A Total amount of food = 5 × 226,8✓ C =1 134,0g ✓CA Number of kg = 1 134 ÷ 1000✓ C =1,134 kg ✓ CA	1MA adding 1A answer 1C conversion 1CA answer 1C conversion 1CA answer **NPR** (6)	MP L2
		[30]	

QUESTION 5 [30 MARKS]

Ques	Solution	Explanation	T & L
5.1.1	Elevation map ✓✓ A	2A correct answer (2)	MP L2
5.1.2	510m✓✓RM	2RM correct answer (2)	MP L2
5.1.3	210km✓✓ RM	2RM correct answer (2)	MP L2
5.1.4	✓RM Distance = 159 – 41✓M =118 km ✓CA	1RM correct values 1 M subtracting 1CA answer (3)	MP L2
5.1.5	Distance = 210 – 192,5 ✓M = 17,5km ✓A Speed = 17,5 ÷ (35÷60) ✓ C =30 km/h ✓CA **OR** Distance = 210 – 192,5 ✓M = 17,5km ✓A Speed = 17,5 ÷ 35 ✓ M =0,5 km/min ✓CA	1M subtracting correct values 1A correct answer 1C converting to hours 1CA speed **OR** 1M subtracting correct values 1A correct answer 1M dividing by 35 1CA speed (4)	MP L3
5.2.1	Line scale 4cm✓A = 2 km✓A 4 = 200 000✓ C 1cm: =50 000cm✓M 1: 50 000✓ CA Statement is CORRECT✓O	**Accept 1mm leeway.** 1A for 4cm 1A for 2 Km 1C convert to cm 1M dividing by 4 1CA answer 1O opinion **NPR** (6)	MP L4
5.2.2	Measure distance on map = 8 cm ✓M ✓ MCA ✓C Actual distance = (8 cm × 50 000) ÷ 100 000 = 4 km ✓CA Statement is INCORRECT✓O	**CA from 5.2.1** **Accept 1mm leeway.** 1M measuring distance 1MCA multiplying by scale 1C convert to km 1CA simplification 1O opinion (5)	MP L3

Ques	Solution	Explanation	T & L
5.3.1	✓ MA ✓MA Cost = (€ 26,80 × 2) + € 6,70 = € 60,30✓CA	1MA multiplying by 2 1MA adding 6.70 1CA correct answer (3)	M L2
5.3.2	✓MA ✓M Difference = 60,30 – [(17,10 × 2) + 4,30] = €21,80✓CA	1MA subtracting. 1M multiplying by 2 1CA correct answer (3)	M L2
		[30]	

TOTAL MARKS: 150