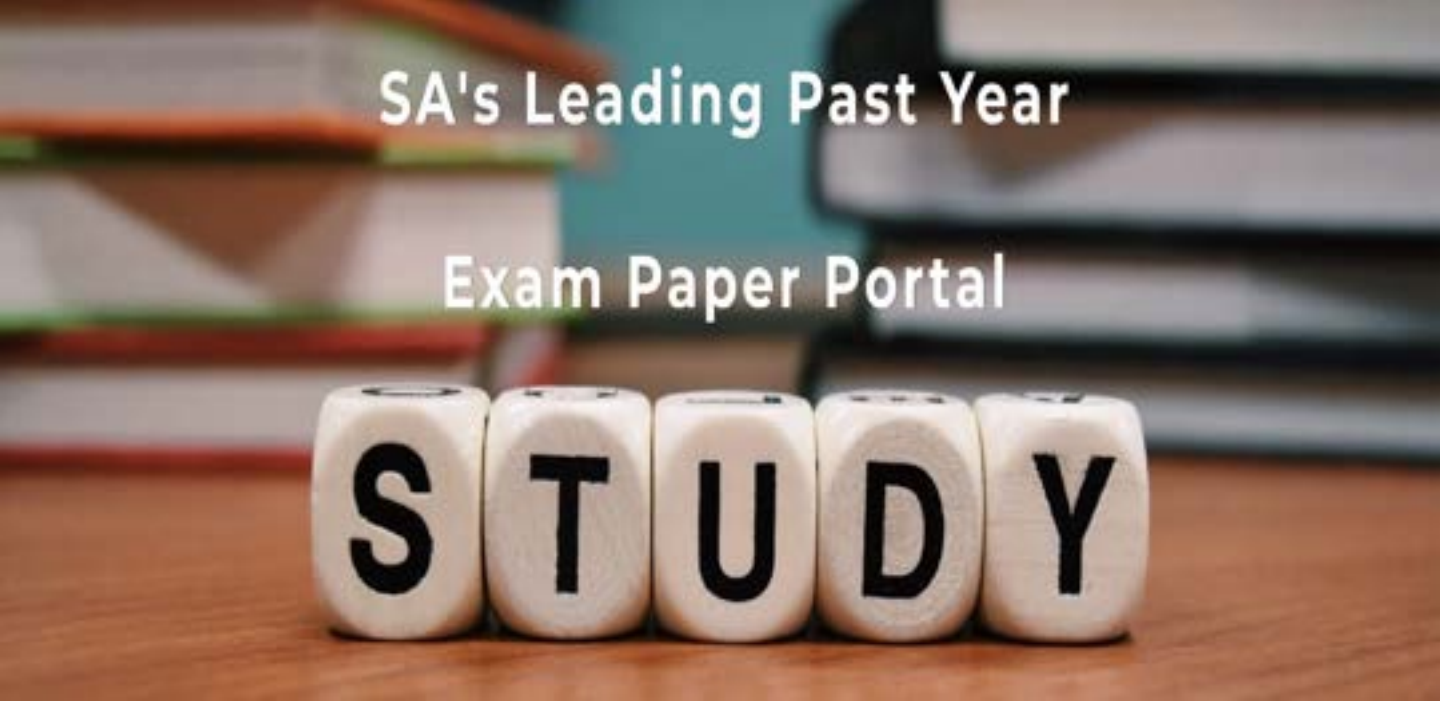

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SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY

2023 TERM 1 TEST

MEMORANDUM

MARKS: 50

This memorandum consist of EIGHT pages.

Question 1 [21]		
1.1	The total earnings before taxes and other deductions.✓ ✓O	2O explanation (2)
1.2	18% of taxable income = $\frac{18}{100} \times R195850$ ✓F✓SF = R35 253,36 ✓S = R35 253✓R	1F choice of formula 1SF substitution 1S simplification 1R rounding (4)
1.3	Taxable income = R27 500 – 7,5% of R27 500✓M = R27 500 – $\frac{7,5}{100}$ x R27 500✓SF = R27 500 – R2 062,50 = R25 437,50 ✓CA Annual taxable income = R25 437,50 x 12✓M = R305 250✓CA **OR** Annual income = R27 500 x 12 = R330 000✓A Taxable income = R330 000 – 7,5% of R27 500✓M✓CA = R330 000 – $\frac{7,5}{100}$ x R27 500✓M = R330 000 – R24 750 = R305 250✓CA	1M Multiply by 7.5% 1M Subtracting pension 1CA Answer 1M multiply by 12 1CA Answer 1A Correct answer 1M Multiply by 7.5% 1CA pension amount 1M Subtracting pension 1CA Answer (5)
1.4	Annual tax = R35 253 + 26% of (R305 250 –R195 850) ✓SF = R35 253 + $\frac{26}{100}$ x R109 400 = R35 253 + R28 444✓M = R63 697✓CA Payable tax = R63 697 – R14 220✓MA = R49 477✓CA She is correct. ✓O	1SF Correct substitution 1M Adding correct amounts 1CA simplification 1MA Subtracting rebates 1CA Answer 1O Conclusion (6)

1.5	Percentage decrease = $\frac{R24800 - R27500}{R27500} \times 100\%$ ✓SF✓M = -9,818181% ✓CA = -9,8%✓R	1SF Substituting correct values 1M Calculating % 1CA Answer 1R Rounding (4)
		[21]
Question 2 [11 Marks]		
2.1	A = 114 802 – 112 124✓RT✓M = 2 678KwH	1RT reading correct values 1M subtraction (2)
2.2	B = 2 078 Kwh x R1,7961/Kwh✓MA = R3 732,30✓CA	1MA Multiply by R1.7961 1A Correct Answer (2)
2.3	VAT = 15% of R4 366,26 ✓MA = R654,94✓A	1MA Calculating VAT 1A Correct answer (2)
2.4	Monthly interest rate = 12.5% ÷ 12 ✓M Amount of interest = R2 914.78 x 0.01041666667✓MA = R 30.36 ✓CA Total amount due (D) = R2 914.78 + R4 366.26 + R 654.94 + R30.36 ✓MA = R 7 966.77 ✓CA	1M Dividing by 12 1A Multiply by rate 1CA Answer 1 MA Adding correct values 1CA Correct answer (5)
		[11]

Question 3 [30 Marks]		
3.1.1	Selling Price = R 8.50 + R 8.50 x 35% ✓M = R 8.50 + R 2.98 ✓M = R 11.48 ✓CA = R 11.50 ✓ R **OR** Profit margin = R 8.50 x 35% ✓M =R 2.98 Selling price = R8.50 + R2.98 ✓M = R 11.48 ✓CA = R 11.50 ✓R **OR** Selling price = R 8.50 x 135% ✓A ✓M = R 11.48 ✓CA = R 11.50 ✓R	1M 35% of R8.50 1M Adding 1CA Answer 1R Rounding 1M 35% 0f R8.50 1M Adding 1CA Answer 1R Rounding 1A 135% 1M Multiply by 135% 1CA Answer 1R Rounding (4)
3.1.2	Income in (R) = R11.50 x number of sandwiches ✓A ✓CA **OR** Income in (R) = R11.50 x n where n is the number of sandwiches ✓CA ✓A	**CA from 3.1.1** 1CA R 11.50 1AMultiply by n (2)
3.1.3	R750 = R 70 + R8.50 x P R750 – R70 = R8.50 x P ✓M R 8.50 x P = R 680 P = R680 ÷ R8.50 ✓S P = 80 ✓CA	1M changing subject of the formula 1S Simplification 1CA Answer (3)
3.2.1	Total Expenditure = $\frac{R1929234}{R5040322} \times 100\%$ ✓MA ✓MA = 38,28%✓A	1MA dividing 1MA multiplying 1A correct answer (3)

3.2.2	75% of R3 055 713 = R2 291 784,75✓MA January export earnings = R3 055 713 − R2 291 784,75 = R763 928,25✓A 47% of R1 984 609 = R932 766,23✓M Local earnings = R1 984 609 − R932 766,23 = R1 051 842,77✓A Total income for January = R1 051 842,77 + R763 928,25 = R1 815 771,02✓A Loss for January = R1 815 771,02 − R1 929 234✓M = R113 462,98✓CA **OR** January export earnings = 0,25 × R3 055 713✓MA = R763 928,25✓A Local earnings = 0,53 × R1 984 609✓MA = R1 051 842,77✓A Total income for January = R1 051 842,77 + R763 928,25 = R1 815 771,02✓A Loss for January = R1 815 771,02 − R1 929 234✓M = R113 462,98✓CA	1MA multiplying by 75% 1A answer 1M multiplying by 47% 1A answer 1A addition and answer 1M subtracting 1CA answer 1MA multiplying by 25% 1A answer 1MA multiplying by 53% 1A answer 1A addition and answer 1M subtracting 1CA answer (7)
3.3.1	Price of dinner for 1 adult and 1 child in dollars = $ 13.50 + $ 6.75 ✓MA = $ 20.25 Price of dinner for 2 adults and 2 children in dollars = $ 20.25 x 2 ✓ M = $ 40.50 Price in Yen = $ 40.50 x 106.86 ✓C = ¥ 4 327.83 ✓ A Price in Rand = ¥ 4 327.83 x 0.1404 = R 607.63 ✓ C Amount for 7 nights = R607.63 x 7 nights = R 4 253.41 ✓CA Total cost including 10% increase = R 4 253.41 x 110% ✓M = R 4 678.75 ✓ CA Mrs Lediga is incorrect ✓O	1MA Adding correct values 1M Multiply by 2 1C Converting to Yen 1A Answer 1C Converting to Rand 1CA Cost for 7 nights 1M Increase by 10% 1CA Answer 1O Conclusion

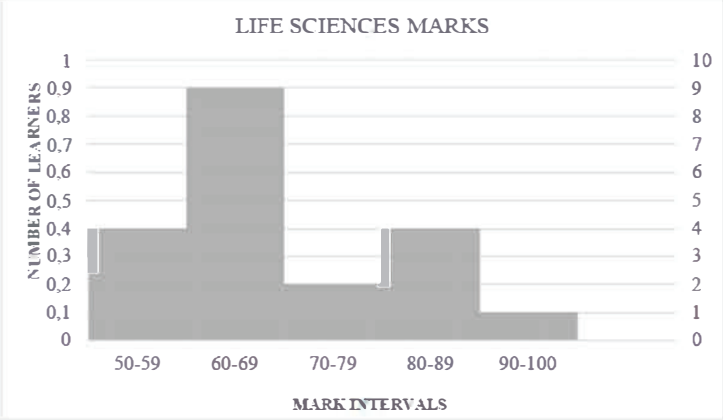
	OR Price of dinner for 1 adult and 1 child = $ 13.50 + $ 6.75 ✓M = $ 20.25 Price of dinner for 2 adults and 2 children = $ 20.25 x 2 ✓M = $ 40.50 Price including 10% increase = $ 40.50 x 1.1 ✓M = $ 44.55 ✓ CA Amount for 7 nights = $ 44.55 x 7 nights = $ 311.85 ✓CA Amount in Yen = $ 311.85 x 106.86 ✓C = ¥ 33 324.29 ✓ A Amount in Rand = ¥ 33 324.29 x 0.1404 = R 4 678.73 ✓ C Mrs Lediga is incorrect. ✓ O	1M Adding correct values 1M Multiply by 2 1M Increase by 10% 1CA Answer 1CA Cost for 7 nights 1C Converting to Yen 1A Answer 1C Converting to Rand 1O Conclusion (9)
3.3.2	Yen ✓✓A **OR** Japanese Yen ✓✓ A	2A Correct Answer (2)
		[30]
Question 4 [38 Marks]		
4.1.1	Total number of tourists = 407 486 + 297 226 + 256 646 + 128 438 +121 883 + 99 205 + 84 691 + 78 438 + 56 244 + 52 377 ✓MA = 1 582 561 ✓CA One million five hundred and eighty two thousand five Hundred and sixty one ✓✓ CA	1MA Adding correct values 1CA Answer 2CA Correct answer (4)
4.1.2	Mean =(1 900 791 + 1 394 913 + 1 200 335 + 838 006 + 593 514 + 212 514 + 161 259 + 135 260 + 48 416+ 35 817) ÷ 10 ✓RT = 6 520 825 ÷ 10 ✓ M = 652 082 ✓ CA	1RT Correct values 1M Mean concept 1CA Answer (3)
4.1.3	Probability = 710 ×100 ✓MA = 70% ✓CA	1A Correct method 1CA Correct answer (2)

4.1.4	56 224 : 1 200 335 ✓ RT ✓ MA 1 : 21.35 ✓ CA	1RT both correct values 1MA ratio in correct order 1CA ratio unit **Accept 1: 21 and 1:21.4** (3)
4.1.5	IQR = 256 646 – 78 385 ✓✓MA = 178 261 CA	2MA Correct Method and correct values 1CA Correct answer (2)
4.2.1	50% ✓✓A	2A Correct Answer (2)
4.2.2	Range = Maximum – Minimum ✓ M 36 = 92 – A ✓RT A = 92 – 36 = 56 ✓ CA	1M Range concept 1RT Correct values 1CA Answer (3)
4.2.3	62 ✓✓A	2A Correct Answer (2)
4.2.4	48 = $\frac{1124+2B}{20}$ ✓MA ✓A 2B = 1124 – 960 B = $\frac{164}{2}$ ✓ M = 82 ✓ CA	1MA Mean concept 1A Adding correct values 1M Dividing by 2 1CA Answer (3)
4.2.5	Median = $\frac{64+64}{2}$ ✓ RT ✓ M = 64 ✓A	CA from 4.2.4 1RT Correct values 1M Dividing by 2 1A Correct answer (3)
4.2.6	Probability = $\frac{5}{10}$ 5 ✓ A ✓ A = $\frac{1}{2}$ ✓ CA	1A Numerator 1A Denominator 1CA Answer (3)

4.2.7		

Intervals	Frequency
50-59	**4**
60-69	**9**
70-79	**2**
80-89	**4**
90-100	**1**

✓A for 4 and 2
✓A for 4 and 1



✓A for 2 bars (50-59 and 70-79)
✓A for 2 bars (80-89 and 90-100

2A for 4 and 2
2A for 4 and 1

2A 2 Correct bars
2A 2 Correct bars

(8)

		[38]