NATIONAL SENIOR CERTIFICATE

GRADE 11

NOVEMBER 2016

MATHEMATICAL LITERACY P1 MEMORANDUM

MARKS: 100

This memorandum consists of 4 pages.

KEY

Symbol	Explanation
M	Method
A	Accuracy
CA	Consistent accuracy
RT/G/M/	Reading from the table/graph/map/plan
SF	Substitution in a formula
S	Simplification
P	Penalty (no units, incorrect rounding etc.)

QUESTION 1 [23]

Q	Solution	Explanation	Mark
1.1.1	Bennie's Service Station Motors Buffalo City ✓✓	2M	L1(2)
1.1.2	A= R3 390,96 –R2 093,46 ✓ = R1 297,50 ✓	1RT 1A	L1(2)
1.1.3	$\dfrac{R\,1\,234,96}{R2\,469,92}$ ✓ × 100 ✓ = 50%	1M numerator and denominator 1M multiply by 100	L2(2)
1.1.4	R212,82 + R4,99 + R75,87 + R697,13 + R2 469,92 + R726,16 ✓ = R4 186,89 ✓	1M 1CA if one value is omitted or R159,50 is added	L1(2)
1.1.5	B = VAT = R3 390,96 × 14%✓ = R474,73 ✓ **OR** B = R3 865,96+R0,09 – R3 390,96✓ = R 474,73✓	1M 1A	L1(2)
1.1.6	R2 469,92 – R4,99 ✓✓ = R2 464,93✓	1 Correct values 1 M 1CA	L1(3)
1.2.1	Opening balance is the balance that is reflected or displayed on the first day listed in the statement before any other transactions.	2 A Explanation	L1(2)
1.2.2	$\dfrac{9,50}{500}$ × 100✓ = 0,019 × 100✓ = 1,9%✓	1M dividing by 500 1M 1CA when the different value from the statement is used	L1(3)
1.2.3	R110,00 + R55,00+R1,10 × 2✓ R165,00 + R2,20✓ = R167,20✓	1M 1S 1CA	L2 (3)
1.2.4	Eighteen Thousand, Five Hundred ✓ and Eighty Two Rand, and Seven Cents✓	2A expanding	L1(2)

QUESTION 2 [19]

Q	Solution	Explanation	Mark
2.1.1	Length= 30 ft✓ Width = 25 ft✓	2 RD	L1(2)
2.1.2	30 ft ✕ 25 ft ✓ 30 ft = 9,1435 = 750 ft² ✓ **OR** 25 ft = 7,6196 $= \frac{750 ft^2}{10,764}$✓ ∴A = 9,1435 × 7,6196 = 69,68 m² ✓ = 69,6698 m² (Accept 69,677 m^2) ≐ 69,67 m²	1M 1S 1 M Dividing by 10,764 1CA	L2 (4)
2.1.3	Amount of fertiliser $= \dfrac{20 \times 15 ✓}{100 ✓}$ $= \dfrac{300 \text{ ft}^2}{100 \text{ft}^2}$ ✓ = 3 ✕ 2 ✓ pounds = 6 pounds ✓ **OR** 2 pounds ✕ 3✓✓ = 100 ft² ✕ 3✓ 6 pounds ✓ = 300 ft²✓	1M numerator 1M denominator 1S 1M Multiply by 2 1CA	L2 (5)
2.1.4	0,15 ✕ 2 ✓ = 0,3 ✓ Approximately = $\frac{1}{3}$ cup ✓ **OR** $\frac{1}{0,15}$ ✓= 6,66666667 Therefore $\frac{2}{0,666666667}$ ✓ = 0,3 cups = ⅓ cup ✓	1M Multiply by 2 1 A 1A	L1(3)
2.2.1	Morning + Evening (10mℓ + 15mℓ + 10mℓ) ✓ ✕ 2✓ = 35mℓ ✕ 2 = 70 mℓ✓	2 M 1CA	L1(3)
2.2.2	10 mℓ + 10 mℓ✓ = 20 mℓ✓	1M 1A	L1(2)

QUESTION 3 [19]

Q	Solution	Explanation	Mark
3.1.1	4✓✓	2 RT	L1(2)
3.1.2	Water monitoring station ✓✓	2 RT	L1 (2)
3.1.3	MA-1 ✓✓	2 RT	L1(2)
3.1.4	103 mm ✓✓ (10,3 cm)	2 RT	L1(2)
3.1.5	$\dfrac{10,3 \times 250\,000✓}{100\,000✓}$ = 25,75 km✓	1C 1 Division 1CA	L3(3)
3.2.1	Table B✓✓ (Accept H/I)	2A RP	L1(2)
3.2.2	South East ✓✓	2A RP	L1(2)
3.2.3	Impossible/Zero/0%✓✓	2A	L1(2)
3.2.4	Table C ✓✓	2RP	L1(2)

QUESTION 4 [27] ✓

Q	Solution	Explanation	Mark
4.1	32,49; 29,63; 23,62; 17,89 ; 14,59; 12,03; 10,31; 9,89; 9,57✓✓	2 M	L1(2)
4.2	Median=R14,59✓✓	2 M	L2(2)
4.3	Range=R 33,73 – R9,68✓✓ =R24,05 ✓	2RT	L2(3)
4.4	R-3,32 ✓✓	2M	L1(3)
4.5	Margarine 500g✓✓	2 RT	L1(2)
4.6	No Mode ✓✓	2RT	L2 (2)

4.7	Area	Margarine	Rice	Sunflower	Ceylon Tea	White Sugar
	Urban	21,68	23,45	17,25	9,68	26,31

Urban food prices
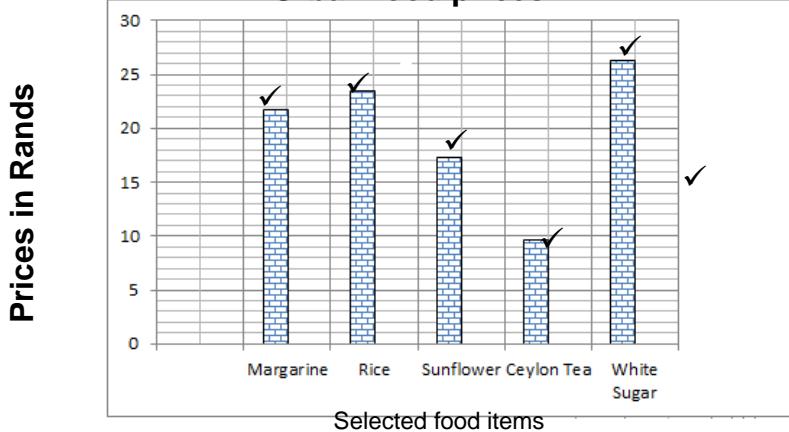
	1mark per food item correctly plotted × 5 = 5 marks + 1 = 6 marks 1mark for correct graph		L2(6)
4.8	Rural area people pay more or less on certain items ✓✓	2A Explanation	L3(2)
4.9	0,56 + 0,72 + 1,11 + 1,24 + 3,79 + (-0,17) + 2,66 + (-0,21) + (-3,32) ✓ $\frac{R6,38}{9}$✓ $= R0,71$✓	1M 1Dividing 1CA	L2(3)
4.10	$\frac{2✓}{9✓}$ × 100 = 22,2% = 22% ✓	1numerator 1denominator 1CA	L2(3)

QUESTION 5 [12]

Q	Solution	Explanation	Mark
5.1	R36,99 ✓✓	2RT	L1(2)
5.2	R200,00 ✓✓	2 RT	L1(2)
5.3	$\frac{R278,78}{13}$ ✓ = R21,44 ✓ = R20,00✓	1M dividing by 13 1S 1A	L1(3)
5.4	6 × R17,99 **OR** $\frac{17,99}{1,14}$ ✓ = 15,78 ✓ × 6 $= \frac{R107,94✓}{1,14✓}$ = R94,68✓ = R94,68 ✓	1A for 6 1M ÷ 1,14 1CA	L2(3)
5.5	$\frac{R99,98}{2}$ ✓ = R49,99✓	1M 1A	L1(2)
5.6	Total = 22,49 + 29,26 + 25,59 + 99,98 + 22,00 + 17,99 + 9,99 + 13,49 + 1,00 ✓ = R241,79 ✓ **OR** Total = 478,78 – 200 – 278,78 = R241,79	1M 1CA	L2(2)

TOTAL: 100