KWAZULU-NATAL PROVINCE

EDUCATION

REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY P1

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COMMON TEST

JUNE 2023

MARKING GUIDELINE

MARKS: 100

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 7 pages.

QUESTION 1 [20 MARKS]: ANSWER ONLY FULL MARKS			
Ques	**Solution**	**Explanation**	**T & L**
1.1.1	It is an arrangement whereby Mrs Nkosi agrees to a contract to acquire the chest freezer by paying a deposit and then settle the outstanding balance over 30 monthly equal repayments. ✓✓A	2A correct answer (2)	F L1
1.1.2	$\text{No of years} = \frac{30}{12\checkmark MA}$ $= 2{,}5\checkmark A$	1MA dividing 30 by 12 1A answer **Accept two and half years** (2)	F L1
1.1.3	$\text{Deposit} = R6\,299{,}00 \times 10\%\checkmark MA$ $= R629{,}90\checkmark A$	1MA multiplying by 10% 1A answer (2)	F L1
1.1.4	$\text{Outstanding balance} = R6\,299{,}00 - R629{,}90\checkmark MCA$ $= R5\,669{,}10\checkmark CA$ **OR** $\text{Outstanding balance} = R6\,299{,}00 \times 90\%\checkmark MA$ $= R5\,669{,}10\checkmark A$	**CA from 1.1.3** 1MCA subtracting deposit 1CA answer 1MA multiplying by 90% 1A answer (2)	F L1
1.1.5	✓RT ✓M $\text{Contractual total} = 30 \times R361{,}99$ $= R10\,859{,}70$	1RT for 30 1M multiplying by R361,99 (2)	F L1
1.2.1	Categorical data is descriptive or qualitative, as data is classified and organised into categories and Numerical data consists of quantities or numerical values. ✓✓A	2A correct explanation (2)	DH L1
1.2.2	**A**: categorical✓A **B**: numerical✓A	1A for categorical 1A for numerical (2)	DH L1
1.2.3	Romance, Action, Soap, Comedy, Horror, Drama, Crime, Science Fiction, Thriller✓✓A	2A correct answer (2)	DH L1
1.2.4	Horror✓✓CA	**CA from Q1.2.3** 2CA correct answer (2)	DH L1
1.2.5	Total number of learners = 1 250✓✓A	2A correct answer (2)	DH L1
		[20]	

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QUESTION 2 [31 MARKS]			
2.1.1	It is the amount of money in Sandile's account at the end of each month. ✓✓A	2A correct definition (2)	F L1
2.1.2	Monthly interest rate $= \frac{8,3✓RT}{12✓M}$ $\approx 0,6917\%✓R$	1RT for 8,3 1M dividing by 12 1R Rounding (3)	F L2
2.1.3	**A** = R10 129,29✓✓RT	2RT correct amount (2)	F L1
2.1.4	**B** $= \frac{8,3}{12}\% \times$ R1 091,37✓M = R7,55✓A **C** = R22 954,67 + R1 091,37 + R7,55✓M = R24 053,59✓CA Difference = R24 053,59 − R22 954,67✓M = R1 098,92✓CA His claim is CORRECT✓O **OR** **B** $= \frac{8,3}{12}\% \times$ R1 091,37✓M = R7,55✓A **C** = R22 954,67 + R1 091,37 + R7,55✓M = R24 053,59✓CA Total of amount saved and interest earned = R1 091,37 + R7,55✓M = R1 098,92✓CA His claim is CORRECT✓O **OR** B $= \frac{8,3}{12}\% \times$ R1 091,37✓M = R7,55✓A Total of amount saved and interest earned = R1 091,37 + R7,55✓M = R1 098,92✓CA	1M multiplying by R1 091,37 1A correct interest **CA from B** 1M adding amounts 1CA closing balance **CA from C** 1M subtracting 1CA answer 1O opinion **OR** 1M multiplying by R1 091,37 1A correct interest **CA from B** 1M adding amounts 1CA closing balance **CA from C** 1M adding 1CA answer 1O opinion **OR** 1M multiplying by R1 091,37 1A correct interest 1M adding 1CA answer	F L4

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	C = R22 954,67 + R1 098,92✓M = R24 053,59✓CA His claim is CORRECT✓O	1M adding amounts 1CA closing balance 1O opinion (7)	
2.2.1	R1 = 0,0838 AUD✓✓A	2A correct answer (2)	F L1
2.2.2	Amount = 500 AUD ÷ 0,0838✓M = R5 966,59✓CA His expectation will NOT be met. ✓O	**CA from 2.2.1** 1M dividing 500 by 0,0838 1CA correct answer 1O opinion (3)	F L4
2.2.3	Commission = 2,02% × R20 000✓M = R404,00✓A Amount to be exchanged = R20 000,00 − R404,00✓M = R19 596✓A US Dollars = R19 596 ÷ 18,8637✓M = $1 038,82✓CA	1M multiplying by 2,02% 1A correct answer 1M subtracting R404 from R20 000 1A correct answer 1M dividing R19 596 by 18,8637 1CA answer (6)	F L3
2.3.1	✓RT Monthly repayment = R1 250 000 ÷ 1 000 × 10,09 = R12 612,50✓A	1RT loan factor 1A correct answer (2)	F L2
2.3.2	Loan period = 360 months✓C Real Cost of Loan = R12 612,50 × 360✓SF = R4 540 500,00✓CA Her claim is valid. ✓O	1C converting to months 1SF for substitution 1CA answer 1O opinion (4)	F L4
		[31]	

QUESTION 3 [22 MARKS]			
3.1.1	Scatter plots✓✓A	2A correct answer (2)	DH L1
3.1.2	A: positive correlation✓A B: negative correlation✓A C: no correlation✓A	1A positive correlation 1A negative correlation 1A no correlation (3)	DH L2
3.1.3	It is better for the company to sell coffee because sales do not depend on weather. ✓✓O	2 O for reason (2)	DH L4
3.2.1	27✓✓RG	1RG correct reading (2)	DH L3
3.2.2	Range $= 35 - 9$✓M $= 26$✓A	1M subtracting 9 from 35 1A correct answer **AO** (2)	DH L2
3.2.3	Grade 12 IQR $= 30 - 16$✓M $= 14$✓CA Grade 10 IQR $= 32 - 15$✓M $= 17$✓CA	1M subtracting 16 from 30 1CA answer 1M subtracting 15 from 32 1CA answer (4)	DH L2
3.2.4	Grade 10✓A Greater median✓O Greater IQR✓O Greater maximum✓O	1A correct grade 1O greater median 1O greater IQR 1Ogreater maximum (4)	DH L4
3.2.5	Upper Quartile $= 75\%$✓M Number of learners $= 75\% \times 128$✓M $= 96$✓A	1M for 75% 1M multiplying 128 by 75% 1A answer (3)	DH L3
		[22]	

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QUESTION 4 [27 MARKS]			
4.1.1	✓M Percentage increase $= \frac{3-2}{2} \times 100\%$ $= 50\%$✓A	1M for subtracting correct values 1A correct answer (2)	F L2
4.1.2	$283\ \text{kWh} = 50\ \text{kWh} + 233\ \text{kWh}$ Cost excluding VAT $= (50 \times \text{R2})$✓M $+ (233 \times \text{R3})$✓M $= \text{R799,00}$✓S Cost including VAT $= \text{R446,00} + (115\% \times \text{R799,00})$✓M $= \text{R1 364,85}$✓CA **OR** Cost excluding VAT $= (50 \times \text{R2}) + (233 \times \text{R3})$✓M $= \text{R799,00}$✓S VAT $= 15\% \times \text{R799,00}$ $= \text{R119,85}$✓A Cost including VAT $= \text{R446,00} + \text{R799,00} + \text{R119,85}$✓M $= \text{R1 364,85}$✓CA	1M multiplying 50 by 2 1M multiplying 233 by R3 1S simplifying 1M adding R446 and multiplying by 115% 1CA answer **OR** 1M multiplying by R2 and R3 1S simplifying 1A for VAT 1M adding VAT and R446 to R799 1CA answer (5)	F L3
4.1.3 a	Charge excluding VAT $= (\text{R1 209,83} - \text{R446,00}) \div 1{,}15$✓M $= \text{R664,20}$✓A **OR** Charge excluding VAT $= (\text{R1 209,83} - \text{R446,00}) \times 100 \div 115$✓M $= \text{R664,20}$✓A	1M subtracting R446 & dividing by 1,15 1A correct answer **OR** 1M subtracting R446 & dividing by 115 1A correct answer	

4.1.3b	Block 1 Cost: R2 × 50 = R100 ✓A Block 2 usage = $\frac{\text{R664,20} - \text{R100}\checkmark\text{M}}{3\checkmark\text{M}}$ = 188,07 kWh✓CA Total usage = 50 kWh + 188,07 kWh✓M = 238,07 kWh✓CA **OR** 50(R2) + kWh(R3) = R664,20✓M $R3 \times$ kWh = R664,20 − R100✓M = R564,20 ÷ R3✓M kWh = 188,07 ✓S Total usage = 50 kWh + 188,07 kWh✓M = 238,07 kWh✓CA	1A Correct cost for block 1 1M subtracting R100 from R664,20 1M dividing by 3 1CA answer 1M adding kWh 1CA answer **OR** 1M equation 1M subtracting R100 1M dividing by 3 1S simplifying 1M Adding correct values 1CA answer (6)	F L3
4.2.1	Tik Tok . ✓✓A	1A correct answer (2)	DH L2
4.2.2	✓M Total = 672M + 548M + 424M + 357M + 330M + 310M + 304M + 298M + 254M + 238M✓M = 3 735 million✓A	1M for a set of 5 figures 1M for the second set 1A answer (3)	DH L2
4.2.3	Mean = $\frac{3\ 735\ \text{million}\checkmark\text{MCA}}{10\checkmark\text{A}}$ = 373,5 million✓CA = 373 500 000✓C	**CA from 4.2.2** 1MCA for numerator 1A denominator 1CA answer 1C conversion (4)	DH L2
4.2.4	P(WhatsApp) = $\frac{424\text{M}\checkmark\text{A}}{3\ 735\text{M}\checkmark\text{MCA}}$ ≈ 0,11✓CA	**CA from 4.2.2** 1A for 424 million 1MCA for dividing by 3 735 million 1CA answer **NPR** (3)	DH L2
		[27]	
		TOTAL MARKS: 100]	

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