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GRADE 11

NOVEMBER 2020

**MATHEMATICAL LITERACY P1
MARKING GUIDELINE
EXEMPLAR**

MARKS: 100

Symbol	Explanation
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT/RG/RM	Reading from a table/Reading from a graph/Read from map
F	Choosing the correct formula
SF	Substitution in a formula
J	Justification
P	Penalty, e.g. for no units, incorrect rounding off etc.
R	Rounding Off/Reason
AO	Answer only
NPR	No penalty for rounding

This marking guideline consists of 8 pages.

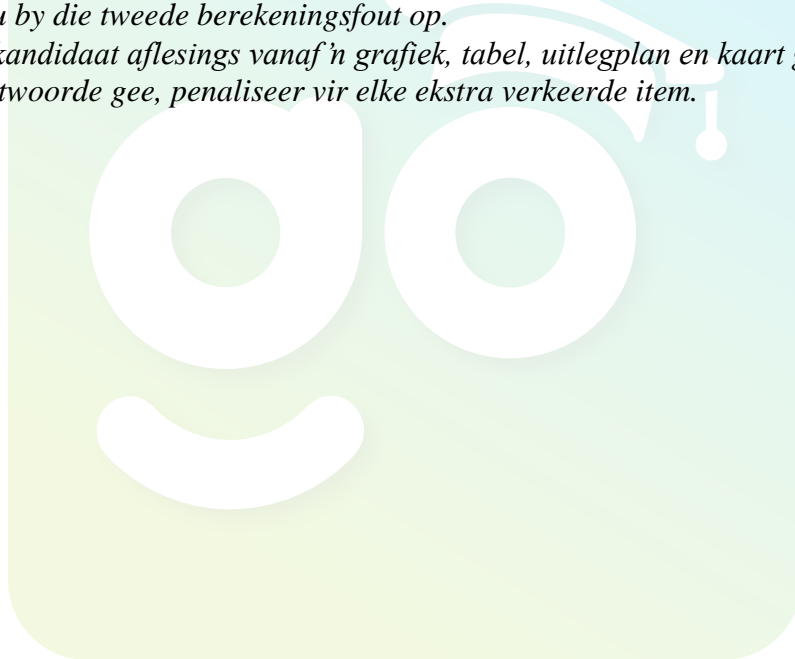
MARKING GUIDELINES

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.

LET WEL:

- *As 'n kandidaat 'n vraag TWEE keer beantwoord, merk slegs die EERSTE poging.*
- *As 'n kandidaat 'n antwoord van 'n vraag doodtrek (kanselleer) en nie oordoen nie, merk die doodgetrekte (gekanselleerde) poging.*
- *Volgehoue akkuraatheid (CA) word in ALLE aspekte van die nasienriglyn toegepas, maar dit hou by die tweede berekeningsfout op.*
- *Wanneer 'n kandidaat aflesings vanaf 'n grafiek, tabel, uitlegplan en kaart geneem en ekstra antwoorde gee, penaliseer vir elke ekstra verkeerde item.*



QUESTION 1 [23 marks]			
Ques.	Solution	Explanation	T&L
1.1.1	Annual gross salary = R10 500 × 12 ✓ M = R126 000 ✓ A	1M Multiply by 12 1A Gross per annum (2)	F L1
1.1.2	Monthly food expense = R10 500 × 36% ✓ M = R3 780 ✓ CA	1M % Calculation 1CA Amount (2)	F L1
1.1.3	Housing % : Food % = 21% : 36% ✓ M = 7 : 12 ✓ CA	1M Correct values and order 1CA Simplest form (2)	F L1
1.1.4	✓ M Savings % = 100% – (21% + 36% + 10% + 1,9%) = 100% – 68,9% ✓ M = 31,1% ✓ CA	1M Adding correct values 1M Subtracting from 100 1CA Percentage (3)	F L1
1.2.1	Primary data ✓✓ A	2A Correct data type (2)	D L1
1.2.2	41 ✓✓ RT	2RT Highest mark (2)	D L1
1.2.3	Median is the middle value of a set of data which is arranged from small to big. ✓✓ A	2A Explanation (2)	D L1
1.2.4	35 ✓✓ A	2A Correct mark (2)	D L1
1.2.5	3 ✓✓ RT	2RT No. of learners failed (2)	D L1
1.3.1	Loss is when the cost is more than the income. ✓✓ A OR Loss incurred when selling price is less than cost price of an item. ✓✓ A	2A Correct explanation (2)	F L1
1.3.2	% loss = $\frac{50}{750} \times 100\%$ ✓ M = 6,67% ✓ CA	1M Fraction multiplied by 100% 1CA Percentage NPR (2)	F L1
			[23]

QUESTION 2: FINANCE [30 marks]			
Ques.	Solution	Explanation	Topic /Level
2.1.1	SmartMAX Focussed Education Plan 1 ✓✓ RT	2A Correct investment plan (2)	F L1
2.1.2	$\text{Number of units} = \frac{8266,470}{100} \checkmark \text{C}$ $= \text{R}82,6647 \checkmark \text{CA}$ $= \frac{8038,07}{82,6647} \checkmark \text{M}$ $= 97,23703104 \checkmark \text{CA}$	1C Converted to Rands 1CA Value 1M Division 1CA No. of units (4)	F L2
2.1.3	$\% \text{ loss} = \frac{12\,924,75 - 6\,995,25}{12\,924,75} \times 100 \checkmark \text{M}$ $= \frac{5929,50}{12\,924,75} \times 100 \checkmark \text{M}$ $= 45,88\%$ OR $\text{Percentage loss} = \frac{6995,25}{12924,75} \times 100 \checkmark \text{M}$ $= 54,12\% \checkmark \text{S}$ $= 100\% - 54,12\% \checkmark \text{M}$ $= 45,88\%$	1M Subtraction of values 1S Simplification 1M Dividing correct values 1M Multiply by 100% OR 1M Dividing correct values 1M Multiply by 100% 1S Simplification 1M Subtraction of % (4)	F L3
2.1.4	$B = \text{R}8\,038,07 - \text{R}6\,995,25 \checkmark \text{MA}$ $= \text{R}1\,042,82 \checkmark \text{CA}$	1MA Subtraction 1CA Correct answer (2)	F L2
2.1.5	R765,57 ✓✓ RT	2RT Correct value (2)	F L2
2.1.6	$\% \text{ increase} = \frac{366,02 - 332,75}{332,75} \times 100 \checkmark \text{SF}$ $= 9,998\% \checkmark \text{S}$ $= 10\% \checkmark \text{R}$	1RT Correct values 1SF Substitution 1S Simplification 1R Nearest % (4)	F L2
2.2.1	Number of plates ✓✓ RT	2RT Number of plates (2)	F L2
2.2.2	Fixed expenses = R500 ✓✓ RT	2RT Fixed expenses (2)	F L2
2.2.3	Income = R50 × Number of plates sold ✓ M ✓ A	1M Multiplication with R50 1A Correct formula (2)	F L2
2.2.4	R0 OR (No Profit) ✓✓ RT	2RT No profit (2)	F L2

2.2.5	<p>Loss for 8 plates = Expenses – Income \checkmarkRT \checkmark RT $= 740 - 400 \checkmark$M $= R340 \checkmark$A OR Expenses = $500 + 8 \times 30 = R740 \checkmark$M Income = $50 \times 8 = R400 \checkmark$M Loss = $740 - 400 = R340 \checkmark$A</p>	<p>1RT R740 1RT R400 1M Subtraction 1A Loss (From graph allow 340 ± 10) OR 1M for R740 1M for R400 1M subtraction 1A for R340 exact answer (4)</p>	F L3
	[30]		



QUESTION 3: DATA HANDLING (18 marks) AND PROBABILITY (3 marks)			
Ques.	Solution	Explanation	T/L
3.1	Total number of spas = 30 394 + 13 856 + 3 984 + 6 057 + 46 282 + 48 679 =149 252 ✓M ✓A	1M Adding correct values 1A Total (2)	D L1
3.2	Mean = $\frac{149\,252}{6}$ ✓M = 24 875,33 = 24 875 ✓R	CA from 3.1 1M Division 1R Whole number (2)	D L2
3.3	European spas as a % = $\frac{46\,282}{149\,252} \times 100$ ✓M = 31% ✓CA	1M Fraction with correct values and multiplication by 100 1CA Percentage (2)	D L2
3.4	Range = 48 679 – 3 984 = 44 695 ✓S Number of regions above range = 2 CA✓	1S Calculate range 1CA Number of regions (2)	D L3
3.5	30 394 : 48 679 = 1 : $\frac{48\,679}{30\,394}$ ✓M ✓M = 1 : 1,60 ✓CA	1M Ratio 1M Fraction 1CA Unit ratio NPR (3)	D L3
3.6	Revenue in sub-saharan Africa = 6,6 – 5,0 ✓M = 1,6 ✓S Total revenue for spas = 22,9 + 6,6 + 1,6 + 2,8 + 33,3 + 26,5 ✓M = \$93,7 billion ✓CA	1M Subtraction 1S Simplification 1M Addition 1CA Total revenue Penalise 1 mark if not in billions (4)	D L3
3.7	1,6; 2,8; 6,6; 22,9; 26,5; 33,3 ✓M Median revenue = $\frac{6,6 + 22,9}{2}$ ✓M = \$14,75 billion ✓CA	CA the value \$1,6 from 3.6 included in the data 1M Arranging in order of descending or ascending 1M Concept of median 1CA Answer in billions (3)	D L3
3.8	P (Regions with more than 40 000 spas) ✓RT = $\frac{2}{6} \times 100$ ✓M = 33,33% ✓CA	1RT Correct numerator and denominator 1M Multiplication by 100 1CA Percentage NPR (3)	P L2
[21]			

4.3.1	<p>Total absentees = 67 ✓ M</p> <p>Absentees on Wednesday = 16 ✓ A</p> <p>$P(\text{absent on Wed}) = \frac{16}{67}$ ✓ CA</p>	<p>1M Addition to 67</p> <p>1A Absentees on Wed</p> <p>1CA Fraction</p> <p>(3)</p>	P L2
4.3.2	<p>Number of absent learners during the week</p> <p>Number of absent learners</p> <p>Days of the week</p> <p>Girls Boys</p>	<p>1A for Monday boys at 5</p> <p>1A for Tuesday girls at 6</p> <p>1A for Thurs for girls at 7</p> <p>1A for Thurs for boys at 9</p> <p>1A for Fri for boys at 7</p> <p>(5)</p>	D L2
4.4.1	<p>Value of C:</p> $64,2 = \frac{C + 1\,853}{30} \quad \checkmark M$ $64,2 \times 30 = C + 1\,853$ <p>$C = 1\,926 - 1\,853 \quad \checkmark M$</p> <p>$= 73 \quad \checkmark CA$</p> <p>Answer invalid ✓ O</p>	<p>1M Addition (1 853) and division by 30</p> <p>1M Subtraction</p> <p>1CA Value of C</p> <p>1A Invalid</p> <p>(4)</p>	D L4
4.4.2	<p>$D = 0 \quad \checkmark A$</p> <p>No learners scored 30 – 39 marks ✓ A</p>	<p>1A Value of D</p> <p>1A Explanation</p> <p>(CA value of D from 4.4.1 included in the data) (2)</p>	D L4
		[26]	
		TOTAL:	100