

NATIONAL SENIOR CERTIFICATE

GRADE 10

NOVEMBER 2019

MATHEMATICAL LITERACY P1 MARKING GUIDELINE

MARKS: 75

INSTRUCTIONS AND INFORMATION FOR MARKING	
Symbol	Explanation
M	Method
MA	Method with accuracy
A	Accuracy
CA	Consistent accuracy
RT/RG/RM	Reading from a table/graph/map
SF	Correct substitution in a formula
P	Penalty, e.g. for no units, incorrect rounding off etc.
S	Simplification
R	Rounding off
NPR	No penalty rounding or omitting units
AO	Answers only, full marks
C	Conversion

This marking guideline consists of 6 pages.

QUESTION 1			
Quest	Solution	Explanation	Level
1.1	$R7\,500,00 \sqrt{\sqrt{}}$	2A correctly identifying value (2)	L1
1.2	Discrete $\sqrt{\sqrt{}}$	2A correct answer (2)	L1
1.3	Number of males = $120 \times 45\% \sqrt{}$ = $120 \times 0,45$ = 54 males $\sqrt{}$	1MA multiplying correct values 1A (2)	L1
1.4.1	$23:55 - 18:30 \sqrt{}$ = 5 hours 25 min $\sqrt{}$	1M subtracting time 1A correct time in hours and minutes (2)	L1
1.4.2	Total Cost = $R7\,500 + R900 \sqrt{\sqrt{}}$ = $R8\,400 \sqrt{}$	CA FROM 1.4.1 1A R900 1MA adding correct values 1CA answer (3)	L1
1.4.3	Average cost = $\frac{R8\,400}{120} \sqrt{}$ = $R70 \sqrt{}$	CA FROM 1.4.2 1M 1CA (2)	L1
1.5	Perimeter = $6\text{ m} \times 4 \sqrt{}$ = $24\text{ m} \sqrt{}$	1SF correct values in formula 1A answer in m (2)	L1
			[15]

QUESTION 2			
Quest	Solution	Explanation	Level
2.1.1	R65,00 ✓✓	2RT reading correct value from table (2)	L1
2.1.2	$R1\ 700 - R1\ 500 = R200$ (over R1 500) ✓ $\therefore \text{Cost} = R12,00 + (R1,20 \times 2)$ ✓ $= R14,40$ ✓ <p style="text-align: center;">OR</p> $R200 \div 100 = 2$ ✓ $(2 \times R1,20) + R12,00$ ✓ $= R14,40$ ✓	1M subtracting amounts 1SF 1CA 1M dividing 1SF 1CA (3)	L2
2.1.3	$R0,00$ ✓✓ <p style="text-align: center;">OR</p> No money ✓✓	2RT identifying correct value from table (2)	L1
2.2	$VAT = 15\% \times R90,80$ ✓ $= 0,15 \times R90,80$ $= R13,62$ ✓	1MA multiplying correct values 1A answer (2)	L1
2.3	$\text{Interest per year} = R2\ 000 \times 0,095$ $= R190$ ✓ $\text{Total Interest} = R190 \times 2$ $= R380$ ✓ $\text{Total value} = R2\ 000 + R380$ $= R2\ 380$ ✓	1MA calculating interest per year 1M multiplying by 2 years 1CA final answer (3)	L2
2.4.1	Variable: groceries, petrol, electricity, clothing, entertainment (CHOOSE ONE) ✓ Fixed: rent, car payment, insurance (Choose ONE) ✓	2RT one variable and one fixed (2)	L1

2.4.2	$\begin{aligned} \text{Total} &= 1 + 4 \\ &= 5 \text{ parts } \checkmark \\ \therefore \text{Electricity} &= \frac{1}{5} \times R3\,700 \checkmark \\ &= R740 \checkmark \end{aligned}$	1MA adding parts for ratio 1M calculating ratio 1CA answer (3)	L2
2.4.3	$\begin{aligned} \% &= \frac{2\,100}{11\,750} \times 100 \checkmark \\ &= 17,8723 \dots \checkmark \\ &= 18\% \checkmark \end{aligned}$	1MA multiplying correct values 1S simplifying correctly 1R rounding to nearest % (3)	L2
			[20]
QUESTION 3			
Quest	Solution	Explanation	Level
3.1	5 windows $\checkmark\checkmark$	2RM (2)	L1
3.2	West $\checkmark\checkmark$	2A (2)	L1
3.3.1	One unit on the floor plan is equal to fifty units in reality. $\checkmark\checkmark$	2 Explanation (2)	L1
3.3.2	$\begin{aligned} \text{Real width: } &4,8 \text{ cm} \times 50 = 240 \text{ cm} \\ &\approx 2,4 \text{ m } \checkmark \\ \text{Real length: } &9,3 \text{ cm} \times 50 = 465 \text{ cm} \\ &\approx 4,65 \text{ m } \checkmark \\ \therefore \text{Area} &= 2,4 \text{ m} \times 4,65 \text{ m } \checkmark \\ &= 11,16 \text{ m}^2 \checkmark \end{aligned}$	1MA using scale to calculate length and width 1MA converting to metres 1SF substituting correct values 1CA answer (4)	L3
			[10]

QUESTION 4			
Quest	Solution	Explanation	Level
4.1	$\frac{3}{4} \times 250 \text{ ml}$ $= 187,5 \text{ ml} \checkmark$ $\therefore 187,5 \text{ ml} \times 3 \checkmark$ $= 562,5 \text{ ml} \checkmark$ <p style="text-align: center;">OR</p> $\frac{3}{4} \times 3 = \frac{9}{4} \checkmark$ $\therefore \frac{9}{4} \times 250 \text{ ml} \checkmark$ $= 562,5 \text{ ml} \checkmark$	1MA multiplying correct values 1S simplifying by multiplying by 3 1CA answer in ml (3)	L2
4.2	$75 \text{ ml} \div 15 \text{ ml} \checkmark$ $= 5 \text{ tbsp} \checkmark$	1MA dividing correct values 1A answer (2)	L1
4.3	$0,23 \text{ kg} \times 1\,000 \checkmark$ $= 230 \text{ g} \checkmark$	1MA multiplying correct values 1A answer (2)	L1
4.4.1	$\text{Radius} = 32 \text{ cm} \div 2 \checkmark$ $= 16 \text{ cm} \checkmark$ <p style="text-align: center;">OR</p> $\text{Radius} = 320 \text{ mm} \div 2 \checkmark$ $= 160 \text{ mm} \checkmark$	2A correct radius AO acceptable Accept answer in mm or cm (2)	L1
4.4.2	$\text{Volume} = 3,142 \times (160 \text{ mm})^2 \times 12 \text{ mm} \checkmark \checkmark$ $= 965\,222,4 \text{ mm}^3 \checkmark$ <p style="text-align: center;">OR</p> $\text{Volume} = 3,142 \times (16 \text{ cm})^2 \times 1,2 \text{ cm} \checkmark$ $= 965,2224 \text{ cm}^3 \checkmark$ $\approx 965\,222,4 \text{ mm}^3 \checkmark$	CA FROM 4.4.1 (64 cm or 640 mm) 1C convert 1SF correct substitution 1CA answer in mm ³ (3)	L2
			[12]

QUESTION 5			
Quest	Solution	Explanation	Level
5.1.1	The median is the middle value of a data set, after arranging it in ascending/descending order. $\checkmark\checkmark$	2A Correct definition (2)	L1
5.1.2	R5 \checkmark R29 \checkmark	2A correctly identifying R5 and R29 (2)	L1
5.1.3	Average = $\frac{383}{16} \checkmark\checkmark$ $= 23,9375 \checkmark$	1MA adding correctly 1M divide by 16 1CA (3)	L2
5.1.4	\checkmark Range = $110 - 5 \checkmark$ $= 105$	1MA using correct values 1M subtracting (2)	L1
5.1.5	Probability (R29) = $\frac{5}{16} \checkmark\checkmark$ $= 0,3125$ $\approx 0,313 \checkmark$	1A correct numerator 1A correct denominator 1 Rounding (3)	L2
5.2.1	Pie chart $\checkmark\checkmark$	2A identifying correct graph (2)	L1
5.2.2	Adidas, Nike, Puma $\checkmark\checkmark$ OR A, C, D $\checkmark\checkmark$	2RG correctly identifying top 3 (2)	L1
5.2.3	$32\% \times 300 \checkmark$ $= 96 \text{ learners } \checkmark$	1MA multiplying correct values 1A (2)	L2
			[18]
		TOTAL:	75