

NATIONAL SENIOR CERTIFICATE

GRADE 10

NOVEMBER 2018

MATHEMATICAL LITERACY P2 MARKING GUIDELINE

MARKS: 75

Codes	Explanation
M	Method
MA	Method with Accuracy
CA	Consistent Accuracy
A	Accuracy
C	Conversion
D	Define
J	Justification/Reason/Explain
S	Simplification
RD	Reading from a table OR a graph OR a diagram OR a map OR a plan
F	Choosing the correct formula
SF	Substitution in a formula
O	Opinion
P	Penalty, e.g. for no units, incorrect rounding off, etc.
R	Rounding Off
AO	Answer only
NPR	No penalty for rounding OR omitting units

This marking guideline consists of 5 pages.

KEY TO TOPIC SYMBOL:			
F = Finance; M = Measurement; MP = Maps, Plans and other Representations			
DH = Data Handling; P = Probability.			
QUESTION 1 [25 marks] ✓			
Ques.	Solution	Explanation	Topic and Level
1.1.1	$A = R2\ 923,25 + R224,00 + R1\ 182,00 + R1\ 875,00 \checkmark M$ $= R6\ 204,25 \checkmark A$ $B = R6\ 204,25 + R18\ 795,75 \checkmark MCA$ $= R25\ 000 \checkmark CA$	1M Adding all deductions 1A Total deductions (2) CA from (A) 1MCA Addition 1CA Gross Pay/ Basic Salary (2)	F L2
1.1.2	% Pension deduction $= \frac{1\ 875}{25\ 000} \checkmark MCA \times 100\% \checkmark M$ $= 7,5\%$	CA from 1.1.1 (B) 1MCA Correct values 1M Multiply by 100 (2)	F L2
1.1.3	Payslip no.: 75 $Years = \frac{75}{12} \checkmark MA$ $= 6,25\ years \checkmark A$ $Months = 0,25 \times 12$ $= 3\ months \checkmark MCA$ $\therefore 6\ years\ and\ 3\ months \checkmark CA$	1MA Divided by 12 1M Number of years 1MCA Convert decimal part to months 1CA Years and months (4)	F L3
1.1.4	<ul style="list-style-type: none"> • Privacy <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> • Confidentiality $\checkmark \checkmark A$ <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> • Fraud $\checkmark \checkmark A$ 	2A Reason (2)	F L4
1.1.5	$New\ salary = R25\ 000 \times 1,064$ $= R26\ 600 \checkmark MCA$ $New\ Tax\ Amount = R2\ 923,25 + R175,00$ $= R3\ 098,25 \checkmark MA$ $New\ Pension = R1\ 875,00 + R120,00$ $= R\ 1\ 995 \checkmark MA$ $Net\ pay = R26\ 600 - (R3\ 098,25 + R\ 1\ 995 + R224,00$ $+ R1\ 182,00)$ $= R26\ 600 - R6\ 499,25 \checkmark MCA$ $= R20\ 100,75 \checkmark CA$ $Difference\ in\ Net\ Pay = R20\ 100,75 - R18\ 795,75$ $= R1\ 305,00 \checkmark CA$ Statement valid $\checkmark O$	CA from 1.1.1 (B) 1MCA New Salary 1MA New Tax 1MA New Pension 1MCA Subtraction 1CA New Net Pay 1CA Difference 1O Valid (7)	F L4
		No mark for opinion without calculations	

2.1.4	Mean % $= \frac{38,7 + 37,1 + 65,8 + 33,9 + 27,4 + 50,1}{6} \checkmark M$ $= \frac{250}{6} \checkmark CA$ $= 41,7\% \checkmark CA$	1M Adding all values 1M Dividing by 6 1CA Average (3) NPR	DH L3
2.1.5	Probability = $\frac{4}{6} \checkmark \checkmark A$ $= 0,667 \checkmark CA$	2A Numerator 1A Denominator 1CA 3 dec. places (4)	P L2
2.2	Volume of water tank $= \pi \times \text{radius} \times \text{radius} \times \text{height}$ $= 3,142 \times 750 \text{ mm} \times 750 \text{ mm} \times 1\,820 \text{ mm} \checkmark SF$ $= 3,142 \times 75 \text{ cm} \times 75 \text{ cm} \times 182 \text{ cm} \checkmark C$ $= 3\,216\,622,5 \text{ cm}^3 \checkmark CA$ $= 3\,216,6225 \text{ litres} \checkmark C$ The advertised capacity refers to the maximum amount of water the water tank can hold, while the calculated capacity refers to the actual content of the water tank. Accept any other relevant explanation.	1SF Substitution 1A Radius 1C Conversion to cm 1CA Volume 1C Conversion to litres 1O Opinion (6)	M L4
		[20]	
QUESTION 3 [18 marks]			
Ques.	Solution	Explanation	Topic and Level
3.1.1	Perimeter of base = $2 \times \text{length} + 2 \times \text{breadth}$ $= (2 \times 190 \text{ cm}) + (2 \times 160 \text{ cm}) \checkmark SF$ $= (2 \times 1,9 \text{ m}) + (2 \times 1,6 \text{ m}) \checkmark C$ $= 3,8 \text{ m} + 3,2 \text{ m}$ $= 7 \text{ m} \checkmark CA$	1SF Substitution 1C Conversion to m 1CA Perimeter (3)	M L3
3.1.2	Height of the sand = $0,805 \times 31 \text{ cm} \checkmark MA$ $= 24,955 \text{ cm}$ $\approx 25 \text{ cm} \checkmark SF$	1MA Calculating % 1R Nearest cm (2)	M L2
3.2.1	Playschool only caters for children from 3 months to 5 years old. $\checkmark \checkmark A$	2A Reason (2)	MP L4
3.2.2	Yes $\checkmark A$ There are toilets for the disabled. $\checkmark A$	1A Yes 1O Reason (2)	MP L2

