

# NATIONAL SENIOR CERTIFICATE

**GRADE 10**

**NOVEMBER 2017**

## MATHEMATICAL LITERACY P2 MARKING GUIDELINE

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

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This marking guideline consists of 5 pages.

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**KEY TO TOPIC SYMBOL:****F = Finance; M = Measurement; MP = Maps, Plans and other Representations****DH = Data Handling; P = Probability****QUESTION 1 [21 marks]**

Ques	Solution	Explanation	Topic & Level
1.1.1	Purchases for the month $= 476,00 + 135,50 + 99,50 + 77,50 + 129,50 + 57,00$ ✓ M $= R975,00$ ✓ A	1M Adding purchases 1A Total purchases (2)	F L2
1.1.2	Interest per month $= \frac{0,31}{12}$ ✓ M $= 0,025833333$ ✓ A Interest on outstanding amount $= 0,025833333 \times 1215,80$ ✓ M $= R31,40816667$ $\approx R31,41$ ✓ CA <b>OR</b> Interest payable $= \frac{31}{100} \times 1215,80$ ✓ M $= \frac{376}{100}$ ✓ M $= \frac{12}{100}$ ✓ M $\approx R31,41$ ✓ M	1M Divide by 12 1A Monthly interest 1M Multiply by 1215,80 1CA Interest amount 1M Multiply by 1215,80 1A Annual interest 1M Divide by 12 1CA Interest amount (4)	F L3
1.1.3	Percentage $= \frac{327,34}{1\ 636,71} \times 100\%$ ✓ MA $= 19,9998778\%$ $= 20\%$ ✓ CA	1MA Numerator and denominator 1M Multiply by 100 1CA Percentage (3)	F L2
1.1.4	Dress did not fit. ✓✓ A <b>OR</b> Dress was too small. ✓✓ A <b>OR</b> Dress was too big. ✓✓ A <b>OR</b> Dress had a factory fault. ✓✓ A <b>Accept any other relevant reason</b>	2A Reason (2)	DH L4
1.1.5	It is unhygienic. ✓✓ A <b>OR</b> It could have been fitted on. ✓✓ A <b>OR</b> It is stated on the cash slip that underwear may not be returned. ✓✓ A <b>Accept any other logical reason</b>	1A Reason (2)	DH L4
1.2.1	The data is discrete, ✓ A because the Bunny Chows are counted / whole numbers ✓✓ O	1A Correct type 2O Opinion (3)	DH L4
1.2.2	It cannot be said with certainty, because the days of the week are not given in the graph. ✓✓ A	2O Opinion (2)	P L4
1.2.3	Day 27 to Day 28 decreased, ✓ A Day 28 to Day 30 increased ✓ A and Day 30 to Day 31 decreased ✓ A	1O Decrease 27-28 1O Increase 28-30 1O Decrease 30-31 (3)	DH L4

**QUESTION 2 [22 marks]**

Ques	Solution	Explanation	Topic & Level
2.1.1	Fee for 2016 (A) = R3,00 + R1,30 / R100 $= 3,00 + 0,013 \times 500 \checkmark$ SF $\checkmark$ M $= 3,00 + 6,5$ $= R9,50 \checkmark$ CA Fee for 2017 = R10,70 Difference in price = R10,70 – R9,50 $= R1,20 \checkmark$ CA <b>OR</b> Fee for 2016 (A) = $1,3 \times 5 \checkmark$ M $= 6,5 + 3 \checkmark$ M $= R9,50 \checkmark$ CA Fee for 2017 = R10,70 Difference in price = R10,70 – R9,50 $= R1,20 \checkmark$ CA	1SF Substitution 1M Multiply 500 1CA Fee  1CA Difference  1M Multiply by 5 1M Adding 3 1CA Fee  1CA Difference (4)	F L3
2.1.2	Percentage change – Withdrawal (Own Bank) $= \frac{10,70-10,45}{10,45} \times 100\% \checkmark$ F $= 2,4\% \checkmark$ CA Percentage change – Withdrawal (Other Bank) $= \frac{16,70-16,45}{16,45} \times 100\%$ $= 1,5\% \checkmark$ CA 50% more = $1,5 \times 1,5$ $= 2,25\% \checkmark$ CA $\therefore 2,25\% \neq 2,4\%$ Statement is invalid $\checkmark$ CA	1F Correct formula  1CA Percentage  1CA Percentage  1MA Calculate 50% increase 1O Invalid (5)	F L4
2.2.1	Grams of yeast = $\frac{1}{4} \times 28 \checkmark$ M $= 7 \text{ gram} \checkmark$ A	1M Multiply by 28 1A Number in grams (2)	M L2
2.2.2	$^{\circ}\text{C} = (^{\circ}\text{F} - 32) \div 1,8$ $= (115^{\circ}\text{F} - 32) \div 1,8 \checkmark$ SF $= 83 \div 1,8 \checkmark$ S $= 46,11111111$ $= 46^{\circ}\text{C} \checkmark$ CA	1SF Substitute correct value 1S Simplification  1R Nearest $^{\circ}\text{C}$ (3)	M L3
2.2.3	Measurement of loaf pans in inches = 9 inch $\times$ 5 inch Measurement of loaf pans in centimetres $= 22,86 \text{ cm} \times 12,7 \text{ cm}$ $9 \text{ inch} \times 2,54 = 22,86 \text{ cm} \checkmark$ MA $5 \text{ inch} \times 2,54 = 12,7 \text{ cm} \checkmark$ CA She is using the correct loaf pans $\checkmark$ O	1MA Multiply by 2,54 1CA Convert 5 inch to cm 1O Correct pans (3)	M L4
2.2.4	Total time $= \text{Mixing} + \text{Rising} + \text{Panning} + \text{Baking} \checkmark$ M $= 8 \text{ minutes} + 90 \text{ minutes} + 30 \text{ minutes} + 30 \text{ minutes}$ $= \frac{158}{60} \checkmark$ CA $= 2,63\dots \text{ hours} \checkmark$ CA $= 2 \text{ hours } 38 \text{ minutes} \checkmark$ CA Statement is not valid $\checkmark$ O	1M Adding all the times (minimum) 1CA Total time 1CA Answer in hours 1CA Convert to hours and minutes 1O Invalid (5)	M L3&4

## QUESTION 3 [19 marks]

Ques	Solution	Explanation	Topic & Level
3.1.1	$\text{Guests to invite} = 112 - 2 \checkmark M$ $= 110 \text{ guests } \checkmark CA$	1RD Number of seats 1M Subtract 2 1CA Number of guests (3)	MP L2
3.1.2	For easy movement. $\checkmark \checkmark A$ <b>OR</b> Uncomfortable to sit on the short side. $\checkmark \checkmark A$ <b>Accept any other logical reason.</b>	2O Reason (2)	MP L4
3.1.3	$\checkmark A$ Walk pass the dance floor, pass the podium and turn left. $\checkmark A$ <b>OR</b> <b>Accept any other logical explanation.</b>	1A Pass dance floor 1A Direction (2)	MP L4
3.1.4	Probability of guest sitting at table with even number $= \frac{1}{7} \checkmark A$ $= 0,142857142 \checkmark A$ $= 0,143 \checkmark CA$	1A Numerator 1A Denominator 1CA Answer to 3 decimal places (3) <b>Answer must not be greater than 1</b>	P L2
3.1.5	Floor Area of hall = length $\times$ width $= 15,5 \text{ m} \times 9 \text{ m} \checkmark SF$ $= 139,5 \text{ m}^2 \checkmark CA$ Area of Dance floor = $\frac{1}{3} \times 139,5 \text{ m}^2$ $= 46,5 \text{ m}^2 \checkmark CA$	1SF Substitution 1CA Floor Area 1CA Area of dance floor (3)	M L3
3.2	Hiring of the venue: R3 500,00 Draping and décor: R4 750,00 Cost for DJ = R250 $\times$ 6 hours $= R1 500 \checkmark CA$ Catering = (R200 $\times$ 100 guests) + (R100 $\times$ 13) $\checkmark MA$ $= R20 000 + R1 300$ $= R21 300 \checkmark CA$ Total cost $= R3 500,00 + R4 750,00 + R1 500 + R21 300 \checkmark M$ $= R31 050 \checkmark CA$ Statement invalid $\checkmark MA$	CA from 3.1.1 1CA Cost for DJ 1MA 200 $\times$ 100 and 100 $\times$ 13 1CA 1M Adding all values 1CA Total cost 1O Invalid (6)	F L3&4

**QUESTION 4 [13 marks]**

Ques	Solution	Explanation	Topic & Level
4.1	Statement invalid ✓ A The distance between the two towns is not the same ✓✓ A	1A Invalid 2O Explanation (3)	MP L4
4.2.1	Mean temperature = $\frac{16+17+17+17+16+15+13+14+13+14}{10}$ ✓ M = $\frac{152}{10}$ = 15,2 °C ✓ CA	1M Adding all values 1M Dividing by 10 1CA Mean temperature (3)	DH L3
4.2.2	Order -4; -2; -1; -1; 0; 1; 1; 1; 1; 1 ✓ M Median = $\frac{0+1}{2}$ ✓ M = $\frac{1}{2}$ = 0,5 °C ✓ CA	1M Ascending or descending 1M Concept of median  1CA Median value (3)	DH L2
4.2.3	Modal value = 1 °C ✓✓ A	2A Modal value (2)	DH L2
4.3	Probability of rain = Impossible ✓✓ A <b>OR</b> Probability of rain = $\frac{0}{10}$ ✓ A <b>OR</b> Probability of rain = 0 % ✓✓ A <b>OR</b> Probability of rain = None ✓✓ A	2A Impossible  1A Numerator 1A Denominator 2A 0%  2A None (2)	P L2

**TOTAL: 75**