



Education and Sport Development

Department of Education and Sport Development
Departement van Onderwys en Sportontwikkeling
Lefapha la Thuto le Tlhabololo ya Metshameko

NORTH WEST PROVINCE

NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY P1

SEPTEMBER 2019

MARKING GUIDELINES

These marking guidelines consist of 11 pages.

Codes	Explanation
M	Method
MA	Method with Accuracy
CA	Consistent Accuracy
A	Accuracy
C	Conversion
D	Define
J	Justification / Reason / Explain
S	Simplification
RT / RD / RG	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
NP	No penalty for rounding-off OR omitting units

KEY TO TOPIC SYMBOL:

**F = Finance; M = Measurement; MP = Maps, Plans and other representations;
DH = Data Handling; P = Probability**

QUESTION 1**Answer only, full marks.****NPR**

Q	Answer	Explanation	Level
1.1.1	Bar Graph ✓✓O	2O correct type of graph (2)	DH1
1.1.2	Total budget per month = R6 000 + R2 500 + R2 500 + R1 400 + R3 000 + R4 000 + R2 500 + R3 000 ✓RT = R24 900 ✓A	1RT reading all correct values 1A total budget (2)	F1
1.1.3	R6 000; R4 000; R3 000; R3 000; R2 500; R2 500; R2 500; R1 400 ✓✓A	2A All values in the correct order. (2)	DH1
1.1.4	12 mm ✓✓A	2A for correct measurement in mm <div style="border: 1px solid black; padding: 2px; display: inline-block;">Measure on final copy</div> (2)	M1
1.1.5	Total nett income = R11 335 + R14 363 ✓M = R25 698 ✓A	1M for adding correct values 1A total net income (2)	F1
1.1.6	Income received after deductions ✓✓A OR Take home pay OR Gross income ó Deductions	2A income after deductions (2)	F1
1.2.1	Value Added Tax ✓✓A	2A Value Added Tax (2)	F1
1.2.2	VAT = R1 999 × 15% ✓M = R299,85 ✓A	1M for multiplying by 15% 1A calculating VAT (2)	F1
1.2.3	One unit on the picture / diagram represents fifty units in reality ✓✓O	2O for correct wording (2)	MP1
1.2.4	4 wheels ✓✓A	2A correct number of wheels (2)	M1
1.2.5	The price at which the shop sells a product / bag to the public / customers. ✓✓O	2O correct definition in context (2)	F1

Q	Answer	Explanation	Level
1.3.1	One million six hundred and fifty-nine thousand seven hundred and ninety-three. ✓✓O	2O correct wording (2)	1DH
1.3.2	KwaZulu-Natal ✓✓RT	2RT correct province (2)	1DH
1.3.3	Number of visitors = $1\,659\,793 \times 40\%$ ✓M = 663 917,2 = 663 917 ✓A	1M for multiplying by 40% 1A number of visitors (2)	1DH
1.3.4	20% : 10% ✓M 2 : 1 ✓S	1M correct percentages in correct order 1S for simplification (2)	1DH
1.3.5	0% ✓✓A	2A correct probability (2)	1P
			[32]

QUESTION 2

Q	Answer	Explanation	Level
2.1.1	Happy Life Street ✓✓RT	2RT correct street name (2)	F1
2.1.2	Number of days = 14 days + 17 days ✓M = 31 days ✓CA	1M for adding correct values 1CA for number of days (2)	F1
2.1.3	Number of instalments paid = 72 ó 28 ✓MA = 44 ✓A	1MA subtracting correct values 1A for number of instalments (2)	F1
2.1.4	✓RT $\text{VAT} = \text{R}57,50 \times \frac{15}{115} \quad \checkmark \text{M}$ $= \text{R}7,50 \quad \checkmark \text{CA}$ OR $\text{VAT} = \text{R}57,50 \times \frac{0,15}{1,15}$ $= \text{R}50,00$ $\text{R}57,50 \text{ ó } \text{R}50,00 = \text{R}7,50$ OR $\frac{\text{R}57,50}{1,15} = \text{R}50,00$ $\text{R}57,50 \text{ ó } \text{R}50,00 = \text{R}7,50$	1RT for R57,50 1M for multiplying by $\frac{15}{115}$ or $\frac{0,15}{1,15}$ or dividing by 1,15 1CA VAT value (3)	F2
2.1.5	✓RT ✓M $\text{R}70\,646,51 + \text{R}703,72$ $= \text{R}71\,350,23$ OR $\text{R}73\,613,74 \text{ ó } \text{R}2\,967,23 + \text{R}703,72$ $= \text{R}71\,350,23$	1RT correct values 1M adding correct values (2)	F1
2.1.6	Total amount ✓RT $= 72 \times \text{R}2\,967,23 \quad \checkmark \text{M}$ $= \text{R}213\,640,56 \quad \checkmark \text{CA}$	1RT correct values from table 1M multiplying value by 72 1CA total amount (3)	F2

Q	Answer	Explanation	Level
2.1.7	Money saved ✓RT = R213 640,56 ÷ R151 140 ✓M = R62 500,56 ✓CA	CA from Q2.1.6 1RT correct value 1M subtracting correct values 1CA amount of money saved (3)	F2
2.2.1	✓O Money received especially on a regular basis for work or through investments ✓O	1O money received 1O for work or investments (2)	F1
2.2.2	✓A ✓A Income = R45 × number of cars washed	1A R45 1A number of cars (2)	F1
2.2.3	Direct ✓A As the one value increases, the other value increases. ✓O	1A Direct 1O correct reason (2)	F1
2.2.4	$A = \frac{R1\ 170}{45}$ ✓M = 26 ✓CA B = R45 × 20 ✓M = R900,00 ✓CA	1M for dividing by 45 1CA answer 1M for multiplying by 20 1CA answer (4)	F2
2.2.5	Total income = R495 + R765 + R1 170 + R1 485 + R900 + R1 260 ✓M = R6 075 ✓CA	1M adding all correct values 1CA total income (2)	F1
2.3.1	R10 000 + R10 000 = R20 000 ✓ A $= \frac{200\ 000}{4,438}$ ✓ MA = 45 662,10 Thai baht ✓ A	1 A correct total spending 1 MA diving by 0,438 1 A correct final answer (3)	F1
2.3.2	$15\ 000 \times \frac{2,2}{100} \times 2$ ✓SF = R1 170 × 2 = R2 340 (interest) ✓A = R15 000 + R2 340 ✓M = R17 340 ✓CA	1 SF substituting into formula 1 A answer of interest 1 M adding 1 CA final amount (4)	F1
2.3.3	$7 \times 3 \times 2 \times R12$ ✓✓MA = R504,00 ✓A	2 MA calculating total 1 A final amount (3)	F3
			[39]










QUESTION 3

Q	Answer	Explanation	Level
3.1.1	Radius = $67 \text{ mm} \div 2$ ✓M = 33,5 mm ✓A	1M dividing by 2 1A radius (2)	M1
3.1.2	Volume of cylinder = $\pi \times \text{radius} \times \text{radius} \times \text{height}$ = $3,142 \times 33,5 \times 33,5 \times 60$ ✓✓SF = 211 566,57 mm ³ ✓CA	1SF substituting radius from Q.3.1.1 1SF substituting height 1CA for volume (3)	M2
3.1.3	Total surface area = side \times side \times 6 ✓RT = $57 \text{ mm} \times 57 \text{ mm} \times 6$ ✓SF = 19 494 mm ² ✓CA	1RT correct values 1SF correct substitution 1CA for total surface area (3)	M2
3.2.1	Time in seconds ✓M = $6 \times 60 + 53$ = 413 seconds ✓CA	1M for multiplying by 60 1CA answer in seconds (2)	M1
3.2.2	Total time = $10,8 + 13,6 + 16,1 + 23,1 + 23,2 + 23,9 + 24,3 + 24,8 + 26,7 + 29,3$ ✓M = 215,8 seconds ✓CA $215,8 \div 60$ = 3,596666666667 = 3 minutes + $0,596666666667 \times 60$ = 3 minutes 35,8 seconds ✓✓CA	1M adding all correct values 1CA answer in seconds 1CA minutes 1CA seconds (4)	M2
3.3.1	Area = Length \times Width = $8 \text{ cm} \times 4,2 \text{ cm}$ ✓MA = 33,6 cm ² Area = Length \times Width = $8 \text{ cm} \times 3 \text{ cm}$ ✓MA = 24 cm ² Total area = $33,6 + (2 \times 24)$ ✓M = 81,6 cm ² ✓CA	1MA calculating area of one face 1MA calculating area of the other face 1M adding all areas and multiplying one area by 2 1CA total area (4)	M2

Q	Answer	Explanation	Level
3.3.2	Perimeter = 4,2 cm + 3 cm + 3 cm ✓M = 10,2 cm × 10 ✓C = 102 mm ✓A	1M adding all correct values 1C converting to mm 1A answer in mm (3)	M2
3.4.1	Total flour $= 2 \times 6 \frac{2}{2} \times 250 \text{ ml}$ $= 13,5 \times 250 \text{ ml}$ $= 3\,375 \text{ ml}$ ✓M ✓CA	1M for multiplying by 2 and by 250 1CA for answer in ml (2)	M2
3.4.2	$^{\circ}\text{C} = (^{\circ}\text{F} - 32) \div 1,8$ $= (375 - 32) \div 1,8$ ✓SF $= 190,55555\bar{5}$ $= 190^{\circ}\text{C}$ ✓CA	1SF substituting into the formula 1CA rounded answer in $^{\circ}\text{C}$ <div style="border: 1px solid black; padding: 2px; display: inline-block;">Penalty for not rounding correctly</div> (2)	M1
3.4.3	Number of tablespoons $= \frac{24}{24} \times 2$ ✓M $= 6$ ✓CA	M for dividing by 24 and multiplying by 2 1CA number of tablespoons (2)	M2
			[27]

QUESTION 5

Q	Answer	Explanation	Level
5.1.1	0,25 km OR 250 m ✓✓RT	2 RT reading from table (2)	DH1
5.1.2	49 ✓✓RT	2 RT reading from table (2)	DH1
5.1.3	Questionnaire ✓✓A OR Survey	2A correct data collection instrument (2)	DH1
5.1.4	15,18,19,20,25,25,27,28,28,28,29,30, 30 , 30,33,34,37,38,38,39,39,40,41,43,49 ✓M Median = 30 ✓✓A	1M arranging all correct values 2A correct median (3)	DH2
5.1.5	Mode(s) = 28; 30 ✓✓A	2A Bi-modal (2)	DH1
5.1.6	Mean ✓A $= \frac{222}{22}$ ✓MA = 31,32 ✓CA	1 A for sumtotal or addition of all correct values 1 MA dividing by 25 1CA final answer (3)	DH2
5.1.7	Continuous data ✓✓A	2A continuous (2)	DH1

Ques	Answer	Explanation	Level																																												
5.2	<table><tr><th>Distance</th><th>Tally</th><th>Frequency</th></tr><tr><td>0 ó 0,5</td><td></td><td>7</td></tr><tr><td>0,6 ó 1</td><td></td><td>5</td></tr><tr><td>1,1 ó 1,5</td><td></td><td>6</td></tr><tr><td>1,6 ó 2</td><td></td><td>2</td></tr><tr><td>2,1 ó 2,5</td><td></td><td>1</td></tr><tr><td>2,6 ó 3</td><td></td><td>3</td></tr><tr><td>3 ó 3,5</td><td></td><td>1</td></tr><tr><td colspan="2">TOTAL:</td><td>25</td></tr></table> <p>1A first 2 correct tally and frequencies 1A second correct tally and frequencies 1A last three correct tally and frequencies 2A Total</p> <div>Penalize 1 mark if Tally and Frequency columns are swopped around</div> <p>(5)</p>	Distance	Tally	Frequency	0 ó 0,5		7	0,6 ó 1		5	1,1 ó 1,5		6	1,6 ó 2		2	2,1 ó 2,5		1	2,6 ó 3		3	3 ó 3,5		1	TOTAL:		25	<table><tr><td>7</td><td rowspan="2">} ✓A</td></tr><tr><td>5</td></tr><tr><td>6</td><td rowspan="2">} ✓A</td></tr><tr><td>2</td></tr><tr><td>1</td><td rowspan="2">} ✓A</td></tr><tr><td>3</td></tr><tr><td>1</td><td rowspan="2">} ✓A</td></tr><tr><td>3</td></tr><tr><td>1</td><td rowspan="2">} ✓A</td></tr><tr><td>3</td></tr><tr><td>25</td><td>✓✓A</td></tr></table>	7	} ✓A	5	6	} ✓A	2	1	} ✓A	3	1	} ✓A	3	1	} ✓A	3	25	✓✓A	DH1
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5.3	<p>IQR = Q3 ó Q1 ✓RT = 38 ó 26 ✓M = 12 ✓CA</p>	<p>1RT Correct values 1M subtract in correct order 1CA Answer</p> <p>(3)</p>	DH2																																												
5.4	<p>✓RT $\frac{2}{12} \times 100$ ✓M = 16% ✓CA</p>	<p>1RT correct values in correct order 1M Multiply by 100 1CA Answer as a percentage</p> <p>(3)</p>	DH2																																												
5.5.1	<p>$\frac{11}{25}$ OR 44% OR 0,44 ✓✓A</p>	<p>2A Answer</p> <p>(2)</p>	P2																																												
5.5.2	<p>$\frac{2}{6} = 0,36$ ✓✓A</p>	<p>2A Correct decimal</p> <p>(2)</p>	P2																																												
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		TOTAL :	150																																												