



Education and Sport Development

Department of Education and Sport Development
Departement van Onderwys en Sportontwikkeling
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NORTH WEST PROVINCE

PROVINCIAL ASSESSMENT

GRADE 11

MATHEMATICAL LITERACY P1 NOVEMBER 2019

MEMORANDUM

SYMBOL	EXPLANATION
M	Method
M/A	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT/RG	Reading from a table/Reading from a graph
F	Choosing the correct formula
SF	Correct substitution in a formula
O	Opinion/Example
P	Penalty, e.g. for no units, incorrect rounding off etc.
R	Rounding off
J	Justification/Reason

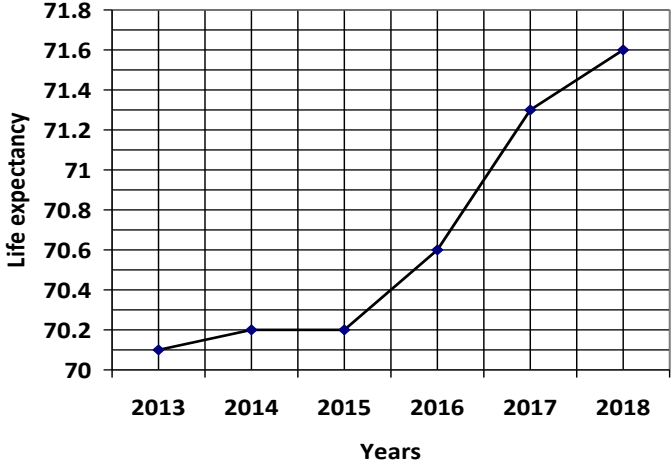
MARKS: 150

This memorandum consists of 5 pages.

Ques.	Solutions	Explanations	TL
	QUESTION 1[20 marks]		
1.1.1	B✓✓	2A answer (2)	L1
1.1.2	26 litres✓✓	2A answer (2)	L1
1.2.1	5✓✓	2A answer (2)	L1
1.2.2	Fezile Dabi✓✓	2A answer (2)	L1
1.2.3	158 365 426 505 546✓✓	2A answer (2)	L1
1.2.4	Total = 158 + 505 + 426 + 365 + 546✓ = 2 000✓	1MA adding 1A answer (2)	L1
1.3.1	02 October 2017 ✓✓ OR 02/10/2017✓✓	2A answer (2)	L1
1.3.2	R13,608770 ✓✓ OR R13, 61✓✓	2A answer (2)	L1
1.3.3	Pound✓✓	2A answer (2)	L1
1.3.4	R16✓✓	2A answer (2)	L1
	QUESTION 2		
2.1.1	Valley High School✓✓	2A answer (2)	L1
2.1.2	Total basic levy = R2 105,89 + R2 158, 50 ✓ = R4 264,39✓	1M adding 1A answer (2)	L1
2.1.3	Amount = R5,6303 × 572✓ = R21 160,43✓	1RT correct values 1M multiplication (2)	L1
2.1.4	Total cost = R4 264,39 + R21 160,43 + R 25 505,49 ✓ = R50 930,31✓ VAT = $\frac{15}{100} \times R50 930,31$ ✓ = R7 639,55 OR Total cost = R2 105,89 + R2 158,50 + R21 160,43 + R 25 505,49 ✓ = R50 930,31✓ VAT = $\frac{15}{100} \times R50 930,31$ ✓ = R7 639,55	1M adding 1CA total cost 1M calculating VAT OR 1M adding 1CA total cost 1M calculating VAT (3)	L2
2.1.5	Tariff = $\frac{R25 505,49}{141}$ ✓ = R180,89✓	1M diving 1A answer (2)	L1
2.1.6	Q = R7 639, 55 + R50 930,31 – R0,06 = R58 569,80 OR Total = R7 659,55 + R50 930	1M adding 1A answer OR	L1

	$= R58\,569,86$ $Q = R58\,659,86 - R0,06$ $= R58\,659,80$	1A sum 1A difference (2)	
2.1.7	<p>Monthly interest rate = $\frac{10}{12}\%$ $= 0,8333\checkmark$ Interest for December 2017 = $0,8333 \times R58\,569,80$ $= R488,08\checkmark$ Total amount payable = $R488,08 + R58\,369,80$ $= R59\,057,88\checkmark$</p> <p>OR</p> <p>Total amount payable = $\frac{110}{12}\% \times \checkmark R58\,369,80\checkmark$ $= R59\,057,88\checkmark$</p>	1A interest rate 1CA interest 1CA total OR 1A interest rate 1M multiplication 1CA answer (3)	L3
2.2.1	<p>Surplus is the money left after paying all the expenses$\checkmark\checkmark$</p> <p>OR</p> <p>Surplus is the positive difference when subtracting expenditure from income$\checkmark\checkmark$</p>	2A answer	L1
2.2.2	Fifty two million five hundred and fifty four thousand two hundred and forty eight rand. $\checkmark\checkmark$	2A answer (2)	L1
2.2.3	Department A $\checkmark\checkmark$	2RT answer (2)	L1
2.2.4	$\% \text{ difference} = \frac{46\,764\,108 - 39\,770\,950}{39\,770\,950} \times 100\%\checkmark$ $= 17,583583\%\checkmark$ $= 18\%\checkmark$	1SF substitution 1S simplification 1R rounding	
2.2.5	<p>Probability = $\frac{4}{7}\checkmark\checkmark$ $= 0,571\checkmark$</p>	1A numerator 1A denominator 1A answer (2)	
QUESTION 3			
3.1.1	Overweight $\checkmark\checkmark$	2RT answer (2)	
3.1.2	<p>height = $6 \times 12 \text{ inches} + 3 \text{ inches}\checkmark$ $= 75 \text{ inches}\checkmark$</p>	1C conversion 1A answer (2)	
3.1.3	<p>$BMI \text{ (kg/m}^2\text{)} = \frac{\text{weight in pounds}}{\text{height in inches}^2} \times 703$</p> <p>$BMI \text{ (kg)} = \frac{200}{(75)^2} \times 703\checkmark$ $= 24,999555556 \text{ kg/m}^2\checkmark$ $= 25 \text{ kg/m}^2\checkmark$</p>	CA from Q3.1.2 1SF substitution 1A answer 1R rounding (3)	L2
3.2.1	<p>Volume = length \times breadth \times height Volume = $4,88 \text{ m} \times 2,44 \text{ m} \times 1,21 \text{ m}\checkmark$ $= 14,407712 \text{ m}^3\checkmark$</p>	1SF substitution 1A answer (2) NPR	L2

3.2.2	$\text{Surface Area} = l \times b + 2 \times [l \times h + b \times h]$ $\text{Surface Area} = 4,88 \text{ m} \times 2,44 \text{ m} + 2[4,88 \text{ m} \times 1,21 \text{ m} + 2,44 \text{ m} \times 1,21 \text{ m}] \checkmark$ $= 11,9072 \text{ m}^2 + 2[5,9048 \text{ m}^2 + 2,9524 \text{ m}^2] \checkmark$ $= 11,9072 \text{ m}^2 + 17,7144 \text{ m}^2 \checkmark$ $= 29,6216 \text{ m}^2 \checkmark$	1SF substitution 1S simplification 1M multiplying by 2 1A answer (4) NPR	L2
3.2.3	$500 \text{ ml} = 500 \text{ cm}^3 \checkmark$ $\text{Height of cylinder} = \frac{\text{volume}}{\pi \times \text{radius}^2}$ $\text{Height of cylinder} = \frac{500 \text{ cm}^3}{3,142 \times (7 \text{ cm})^2} \checkmark$ $= 11,19647006 \text{ cm} \checkmark$ $= 11 \text{ cm} \checkmark$	1C volume in cm^3 1SF substitution 1A answer 1R rounding (4)	L2
QUESTION 4			
4.1	Bar scale $\checkmark \checkmark$	2A answer (2)	L1
4.2	N1 \checkmark , N2 \checkmark , N4 \checkmark , N11 \checkmark , N17 \checkmark Any two roads	1A answer 1A answer (2)	L1
4.3	Mozambique \checkmark and Swaziland \checkmark	1A answer 1A answer (2)	L1
4.4	Below Kruger National Park $\checkmark \checkmark$ OR Down $\checkmark \checkmark$ OR Bottom $\checkmark \checkmark$	2A position (2)	L2
4.5	2,5 cm \checkmark : 100 km \checkmark 2,5 cm: 10 000 000 cm \checkmark 10: 40 000 000 \checkmark	1A measurement 1A ratio 1C conversion 1A answer (4)	L3
QUESTION 5			
5.1	Continuous $\checkmark \checkmark$	2A answer (2)	L1
5.2	2018 $\checkmark \checkmark$	2RT answer (2)	L1
5.3	70,2 $\checkmark \checkmark$	1A answer 1A answer (2)	L2
5.4	Difference = $63,6 - 61,5 \checkmark$ $= 2,1 \checkmark$	1M subtracting 1A answer (2)	L1
5.5	Median = $\frac{63,6 + 64,0}{2} \checkmark$ $= 63,8 \checkmark$	1M concept 1A answer (2)	

<p>5.6</p>	<p>Average age = $\frac{70,1 + 70,2 + 70,2 + 70,6 + 71,3 + 70,5}{6}$</p> <p>= $\frac{423,9}{6}$</p> <p>= 70,65</p>	<p>1M concept of mean</p> <p>1A diving by 6</p> <p>1A answer</p> <p>(3)</p>	<p>L2</p>														
<p>5.7</p>	<p style="text-align: center;">Life expectancy from 2013 to 2019</p>  <table border="1" style="display: none;"> <caption>Data for Life expectancy from 2013 to 2019</caption> <thead> <tr> <th>Year</th> <th>Life expectancy</th> </tr> </thead> <tbody> <tr> <td>2013</td> <td>70.1</td> </tr> <tr> <td>2014</td> <td>70.2</td> </tr> <tr> <td>2015</td> <td>70.2</td> </tr> <tr> <td>2016</td> <td>70.6</td> </tr> <tr> <td>2017</td> <td>71.3</td> </tr> <tr> <td>2018</td> <td>71.6</td> </tr> </tbody> </table>	Year	Life expectancy	2013	70.1	2014	70.2	2015	70.2	2016	70.6	2017	71.3	2018	71.6	<p>1A 2013</p> <p>1A 2014</p> <p>1A 2015</p> <p>1A 2016</p> <p>1A 2017</p> <p>1A 2018</p> <p>1A joining</p> <p>(7)</p>	
Year	Life expectancy																
2013	70.1																
2014	70.2																
2015	70.2																
2016	70.6																
2017	71.3																
2018	71.6																
<p>5.8</p>	<p>Probability = $\frac{8}{17} \checkmark \times 100\% \checkmark$</p> <p>= 47% \checkmark</p>	<p>1MA correct values</p> <p>1M multiplying by 100%</p> <p>1A answer</p> <p>(3)</p>															

Memorandum – Grade 11

QUES	Topics					Taxonomy Levels		
	Finance	Measurement	Maps, plans and other representation of the real	Data Handling	Probability	Level 1	Level 2	level 3
1.1.1		2				2		
1.1.2		2				2		
1.2.1				2		2		
1.2.2				2		2		
1.2.3				2		2		
1.2.4				2		2		
1.3.1	2					2		
1.3.2	2					2		
1.3.3.	2					2		
1.3.4	2					2		
2.1.1.	2					2		
2.1.2	2					2		
2.1.3	2					2		
2.1.4	3						3	
2.1.5	2					2		
2.1.6	2					2		
2.1.7	3							3
2.2.1	2					2		
2.2.2	2					2		
2.2.3	2					2		
2.2.4	3						2	
2.2.5					3		2	
3.1.1.		2				2		
3.1.2		2					2	
3.1.3		3					3	
3.2.1		2					2	
3.2.2		4					4	
3.2.3		4					4	
4.1			2				2	
4.2			2				2	
4.3			2				2	
4.4			2				2	
4.5			4					4
5.1				2		2		
5.2				2		2		
5.3				2			2	
5.4				2		2		
5.5				2			2	
5.6				3			2	
5.7				7			2	
5.8					3		3	
Total	36	21	12	25	6	55	38	7
Expected % (± 5)	35	20	15	25	5	60	35	5
Actual %	36	21	12	25	6	55	38	7

