



# education

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Noord-Wes Departement van Onderwys  
North West Department of Education  
**NORTH WEST PROVINCE**

## PROVINCIAL ASSESSMENT

**GRADE 10**

**MATHEMATICAL LITERACY P1**

**NOVEMBER 2019**

**MARKING GUIDELINES**

**MARKS: 75**

<b>Symbol</b>	<b>Explanation</b>
M	Method
M/A	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT/RG/RD	Reading from table/graph/diagram
SF	Correct substitution in formula
O	Opinion/Example
P	Penalty, e.g. for no units /incorrect rounding, etc.
R	Rounding off
AO	Answer only full marks
NPR	No penalty for rounding

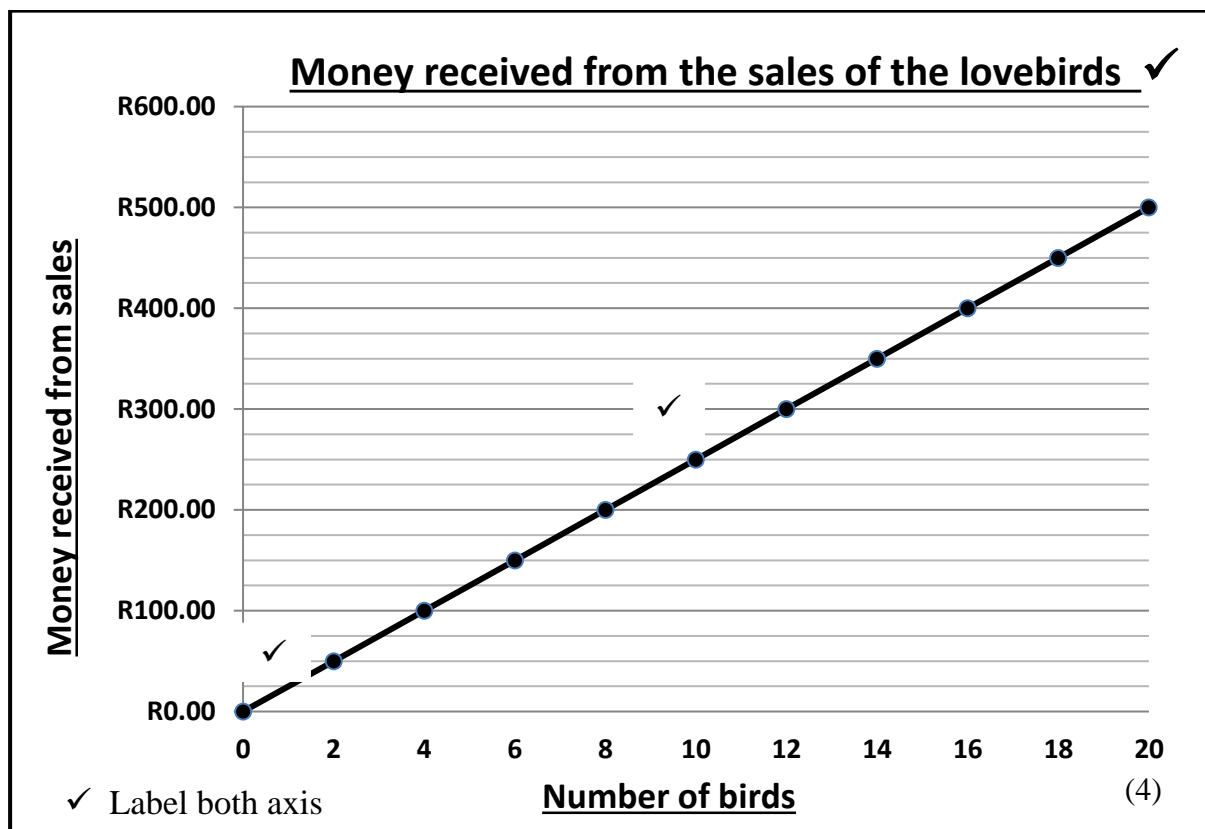
**These marking guidelines consist of 6 pages and 1 page with cognitive levels.**

<b>QUESTION 1 [18]</b>			
<b>Ques.</b>	<b>Solution</b>	<b>Explanation</b>	<b>Topic Level</b>
1.1.1	80 + 120 ✓ = 200 lovebirds in total ✓	1M Adding 1A Answer – Total birds (2)	Data L 1
1.1.2	200 ÷ 5 cages ✓ = 40 birds per cage ✓	<i>CA Question 1.1.1</i> 1M Divide with 5 1A Answer – Per cage (2)	Data L 1
1.1.3	Yellow : Green 80 ✓ : 120 ✓ 2 : 3 ✓	2MA Correct ratio 1A Simplification (3)	Data L 2
1.1.4	Probability (yellow bird) $\frac{80}{200}$ ✓ $\frac{2}{5}$ ✓ = 0,4 ✓	<i>CA Question 1.1.1</i> 1M Numerator 1M Denominator  1A Answer – Decimal number (3)	Prob L 2
1.2.1	Sunseed ✓✓	2RT Read from picture (2)	Data L 1
1.2.2	1,3 kg × 5 cages ✓ = 6,5 kg per day ✓ 6,5 kg × 7 days per week ✓ = 45,5 kg per week ✓  <b>OR</b>  1,3 kg × 7 days ✓ = 9,1 kg per week ✓ 9,1 kg × 5 cages ✓ = 45,5 kg ✓  <b>OR</b>  1 × 5 cages ✓ = 5 cages per day × 1,3 kg ✓ = 6,5 kg × 7 days per week ✓ = 45,5 kg ✓	1M Multiply with 5 1A Answer – kg per day 1M Multiply with 7 1CA Answer – kg per week  <b>OR</b>  1M Multiply with 7 1A Answer – kg per week 1M Multiply with 5 1CA Answer – Total kg per week  <b>OR</b>  1M Multiply with 5 1M Multiply with 1,3 1M Multiply with 7 1CA Answer – kg per week (4)	Meas L 3
1.2.3	1000 ml = 1 ℓ 800 ml ÷ 1 000 ✓ = 0,8 ℓ ✓	1C Divided with 1 000 1A Answer – Litre (2)	Meas L 1
		<b>[18]</b>	

<b>QUESTION 2 [20]</b>			
<b>Ques.</b>	<b>Solution</b>	<b>Explanation</b>	<b>Topic Level</b>
2.1	Radius = Diameter $\div$ 2 Radius = 6 cm $\div$ 2 $\checkmark$ = 3 cm $\checkmark$	1MA Divide with 2 1A Answer – Radius (2)	Meas L 1
2.2	<b>Area of circle</b> = $\pi r^2$ <i>Area of circle</i> = 3,142 $\times$ 3 <sup>2</sup> $\checkmark$ = 3,142 $\times$ 9 cm <sup>2</sup> = 28,278 cm <sup>2</sup> = 28,28 $\checkmark$ cm <sup>2</sup> $\checkmark$	1SF Substitute formula  1A Answer – Area 1U Unit – cm <sup>2</sup> (3)	Meas L 2
2.3	<b>Vol = length <math>\times</math> width <math>\times</math> height</b> <i>Volume</i> = 17 cm $\times$ 13 cm $\times$ 25 cm $\checkmark$ Volume = 5 525 cm <sup>3</sup> $\checkmark$	1SF Substitute formula 1A Answer – Volume (2)	Meas L 2
2.4	$221 \text{ cm}^2 \times \frac{8}{100}$ = 17,68 cm <sup>2</sup> $\checkmark$ $221 \text{ cm}^2 + 17,68 \text{ cm}^2 \checkmark$ = 238,68 cm <sup>2</sup> $\checkmark$  <b>OR</b>  100% + 8% = 108% $\checkmark$ $221 \text{ cm}^2 \times \frac{108}{100} \checkmark$ = 238,68 cm <sup>2</sup> $\checkmark$  <b>OR</b>  221 = 100% x = 108% $\checkmark$ $\frac{221 \times 108}{100} \checkmark$ <b>OR</b> 221 $\times$ 1,08 = 238,68 cm <sup>2</sup> $\checkmark$	1A Answer – 8%  1M Adding of 8% 1A Answer – Area roof  <b>OR</b>  1A Answer – 108% 1M Multiply with 108% 1A Answer – Area roof  <b>OR</b>  1M Adding of 8% 1M Multiply with 108%  1A Answer – Area roof (3)	Meas L 2
2.5.1	Wood glue = R50,00 per bottle $\checkmark\checkmark$	2RT Read from table (2)	Finan L 1
2.5.2	9 nails needed $\checkmark\checkmark$	2RT Read from table (2)	Finan L 1
2.5.3	0,2 m <sup>2</sup> $\times$ R650,00 $\checkmark$ = R130,00 $\checkmark$	1M Multiply with R650 1A Answer – Total cost (2)	Finan L 2
2.5.4	Total expenses = R130,00 + R4,50 + R2,50 + R50,00 $\checkmark$ = R187,00 $\checkmark$	<i>CA Question 2.5.3</i> 1M Adding of expenses 1A Answer – Total expenses (2)	Finan L 2

2.5.5	How many boxes build = R2 000,00 ÷ R187,00 per box ✓ = 10,69518717 ≈ 10 boxes ✓	CA Question 2.5.4 1M Divide with cost per box 1A Answer – Amount of boxes (ROUNDING down) <b>P – NOT rounded down</b>  (2)	Finan L 2
		[20]	

QUESTION 3 [10]			
Ques.	Solution	Explanation	Topic Level
3.1	Independent variable = Number of birds ✓✓	2A Answer – Independent variable  (2)	Data L 1
3.2	25 birds × R25 ✓ = R125 ✓	1M Multiply with R25 1A Answer – Cost of 5 birds  (2)	Data L 1
3.3	<b>ANSWER SHEET</b> Graph below	1A Heading 1A Label both x-axis and y-axis 1A Starting point (0;0) 1A Point (10;250)  (4)	Data L 1 L 2
3.4	Discrete data (whole number) ✓✓	2A Answer – Discrete data  (2)	Data L 1
		[10]	



<b>QUESTION 4 [17]</b>			
<b>Ques.</b>	<b>Solution</b>	<b>Explanation</b>	<b>Topic Level</b>
4.1.1	Cost per person @ Moses Mabhida = R50 + R70 ✓ = R120 ✓	1M Adding of costs 1A Answer – Cost per person (2)	Finan L 1
4.1.2	Cheapest activity = Moses Mabhida Stadium ✓✓	2RT Read from table (2)	Finan L 1
4.1.3	Duration of afternoon train trip 16:00 – 12:30 ✓ = 3,5 hours ✓ <b>OR</b> = 3 hours 30 min ✓	1M Subtract times 1A Answer – Duration of trip (2)	Meas L 1
4.2.1	Tel no: 031 632 6209 ✓✓	2RT Read from bill (2)	Finan L 1
4.2.2	September month ✓✓ <b>OR</b> 9 <sup>th</sup> Month ✓✓	2RT Read from bill <b>OR</b> 2RT Read from bill (2)	Finan L 1
4.2.3	Flavour milkshake = Chocolate ✓✓	2RT Read from bill (2)	Finan L 1
4.2.4	VAT = R258,50 × $\frac{15}{115}$ ✓ VAT = R33,71739130 VAT ≈ R33,72 ✓ <b>OR</b> $\begin{array}{r} R258,50 \\ \underline{1,15} \\ = R224,78 \end{array}$ ✓ R258,50 – R224,78 = R33,72 ✓	1MA Multiply with 15/115 1A Answer – VAT <b>OR</b> 1A Answer – Amount without VAT 1A Answer – VAT (2)	Finan L 2
4.2.5	Tip = R258,50 × $\frac{10}{100}$ ✓ Tip = R25,85 ✓ Tip ≈ R26,00 ✓R	1MA Multiply with 10% 1A Answer – Tip 1RA Rounded Answer (3)	Finan L 2
		<b>[17]</b>	

<b>QUESTION 5 [10]</b>			
<b>Ques.</b>	<b>Solution</b>	<b>Explanation</b>	<b>Topic Level</b>
5.1	12 rows ✓✓	2RT Read from map (2)	M+P L 1
5.2	Row G = 28 seats ✓✓	2RT Read from map (2)	M+P L 1
5.3	Wheelchairs seats = 6 ✓	2RT Read from map (2)	M+P L 1
5.4	D8 to D15 = 7 seats moved to the right ✓✓	2RT Read from map (2)	M+P L 1
5.5	M3 / M4 / M5 / M6 ✓✓ <i>Name any ONE seat number</i>	2RT Read from map (2)	M+P L 1
		<b>[10]</b>	

Quest	COGNITIVE LEVELS				OUTCOMES				
	Level 1: Knowing	Level 2: Applying routine procedures	Level 3: Applying multi-step procedures	Level 4: Reasoning and reflecting	Finance	Measurement	Maps and Plans	Data handling	Probability
1.1.1	2							2	
1.1.2	2							2	
1.1.3		3						3	
1.1.4		3							3
1.2.1	2							2	
1.2.2			4			4			
1.2.3	2					2			
<b>Ques.1</b>	<b>8</b>	<b>6</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>9</b>	<b>3</b>
2.1	2					2			
2.2		3				3			
2.3		2				2			
2.4		3				3			
2.5.1	2				2				
2.5.2	2				2				
2.5.3	2				2				
2.5.4		2			2				
2.5.5		2			2				
<b>Ques.2</b>	<b>8</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>
3.1	2							2	
3.2	2							2	
3.3	2	2						4	
3.4	2							2	
<b>Ques.3</b>	<b>8</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>0</b>
4.1.1	2				2				
4.1.2	2				2				
4.1.3		2				2			
4.2.1	2				2				
4.2.2	2				2				
4.2.3	2				2				
4.2.4		2			2				
4.2.5		3			3				
<b>Ques.4</b>	<b>10</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>
5.1	2						2		
5.2	2						2		
5.3	2						2		
5.4	2						2		
5.5	2						2		
<b>Ques.5</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>
	<b>44</b>	<b>27</b>	<b>4</b>	<b>0</b>	<b>25</b>	<b>18</b>	<b>10</b>	<b>19</b>	<b>3</b>
	<b>59%</b>	<b>36%</b>	<b>5%</b>	<b>0%</b>	<b>34%</b>	<b>24%</b>	<b>13%</b>	<b>25%</b>	<b>4%</b>
Policy	45	26	4	0	26	15	11	19	4
%	60%	35%	5%	0%	35%	20%	15%	25%	5%