



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY P1

NOVEMBER 2014

MEMORANDUM



MARKS: 150

SYMBOL	EXPLANATION
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT/RG/RD	Reading from table/Reading from graph/Reading from diagram
SF	Substitution in a formula
RO	Rounding off
NPR	No penalty for rounding
J	Justification /Reason
NO PENALTY IF UNITS OMITTED UNLESS STATED OTHERWISE	

This memorandum consists of 22 pages.

KEY TO TOPIC SYMBOLS:

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

QUESTION 1 [38]			
Ques	Solution	Explanation	Topic
1.1.1	$17\% \checkmark\checkmark\text{RD}$ OR $0,17 \checkmark\checkmark\text{RD}$ OR $\frac{17}{100} \checkmark\checkmark\text{RD}$	2 RD reading from diagrams <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">Max 1 mark for 17</div> (2)	F L1
1.1.2 (a)	$R2\ 443,49 \div 24 \checkmark\text{M/A}$ $= R101,81 \checkmark\text{CA}$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 5px auto;">Accept correct answer only</div>	1M/A division by 24 1CA only if using R2 100 <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">NPR</div> (2)	F L1
1.1.2 (b)	Original selling price = $R1\ 989 + R210 \checkmark\text{M/A}$ $= R2\ 199 \checkmark\text{A}$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 5px auto;">Accept correct answer only</div>	1M/A adding 1A simplify (2)	F L1
1.1.2 (c)	$15\% \times R2\ 100$ OR $\frac{15}{100} \times R2\ 100 \checkmark\text{M/A}$ OR $0,15 \times R2\ 100$ $= R315 \checkmark\text{CA}$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 5px auto;">Accept correct answer only</div>	1M/A multiplying 1CA simplify (2)	F L1

Ques	Solution	Explanation	Topic
1.1.2 (d)	$\begin{aligned} \text{Total payment} &= R88 \times 30 \text{ months} \\ &= R2\,640 \quad \checkmark M/A \\ \text{Total cost} &= R199 + R2640 \\ &= R2\,839 \quad \checkmark CA \end{aligned}$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>Accept correct answer only</p> </div>	<p>1RD reading values from advert 1M/A multiplication 1M addition of R199 1CA simplify</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>Accept R2 839,25 if the formula for Simple Interest is used</p> </div> <p style="text-align: right;">(4)</p>	<p>F L1(2) L2(2)</p>
1.2.1	<p>Clover milk $\checkmark\checkmark A$</p>	<p>2A correct item</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>Full marks if answer is given as 1 l (liter) OR milk only</p> </div> <p style="text-align: right;">(2)</p>	<p>F L2</p>
1.2.2	<p>Cost of 1 tin of condensed milk = R16,95 – R1,00 = R15,95 $\checkmark M/A$</p> <p>Number of tins of condensed milk = R159,50 \div R15,95 = 10 $\checkmark CA$</p> <p style="text-align: center;">OR</p> <p>Cost of 1 tin of condensed milk = R159,50 \div R16,95 $\checkmark M$ = 9,4 Number of tins of condensed milk ≈ 10 $\checkmark\checkmark RO$</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>Accept correct answer only</p> </div>	<p>1M/A subtracting</p> <p>1M division 1CA no. of tins</p> <p>OR</p> <p>1M division by R16,95 2 RO to 10</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>Max 1 mark for 9,4 with calculations Max 2 marks for 9 with calculations</p> </div> <p style="text-align: right;">(3)</p>	<p>F L1</p>


Ques	Solution	Explanation	Topic
1.2.3	$A = R289,52 + R29,07 = R318,59$ <p style="text-align: center;">OR</p> $A = 14,99 + 21,95 + R159,50 + R9,95 + R19,95 + R14,99 + R14,99 + R46,99 + R8,29 + R6,99 = R318,59$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Accept correct answer only</div>	<p>1M adding 1A simplify</p> <p>1M adding 1A simplify</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">1 mark if one value is omitted</div> <p style="text-align: right;">(2)</p>	F L1
1.2.4	<p>12/10/2013 till 12/12/2013</p> <p>= 2 months OR 61 days OR 62 days OR 60 days</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Accept correct answer only</div>	<p>1RD Reading from slip 1A simplify</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Accept 2 or 3 days Max 1 mark for until (or up to) 12/12/2013</div> <p style="text-align: right;">(2)</p>	F L1
1.2.5	$135 \text{ g} \div 1000 = 0,135 \text{ kg}$ $R19,95 \div 0,135 \text{ kg} = R147,78$ <p style="text-align: center;">OR</p> $R19,95 \div 135 \text{ g} = R0,1477... \text{ per gram}$ $R0,14777... \times 1\,000 \text{ g} = R147,78$ <p style="text-align: center;">OR</p> $135 \text{ g} : 1\,000 \text{ g}$ $R19,95 : x$ $x = R19,95 \times 1\,000 \div 135 = R147,78$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Accept correct answer only</div>	<p>1C Convert to kg 1M Dividing 1CA cost per kg</p> <p>OR</p> <p>1M Dividing 1C convert to kg 1CA cost per kg</p> <p>OR</p> <p>1C Convert to g 1M multiply & divide 1CA cost per kg</p> <p style="text-align: right;">(3)</p>	F L1





Ques	Solution	Explanation	Topic
1.2.6	$R14,99 + R9,95 + R19,95 + R14,99 + R14,99 + R6,99 = R81,86 \checkmark A$ <p style="text-align: center;">OR</p> $R318,59 - (R21,95 + R8,29 + R46,99 + R159,50) = R318,59 - R236,73 = R81,86 \checkmark A$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Accept correct answer only</div>	<p>1M adding values 1A simplify</p> <p style="text-align: center;">OR</p> <p>1M adding values 1A simplify</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">If one value is omitted only 1 mark</div> <p style="text-align: right;">(2)</p>	F L1
1.2.7 (a)	<p>B = R318,59 round down $\checkmark CA$ = R318,55 $\checkmark CA$</p> <p style="text-align: center;">OR</p> <p>B = R318,59 round up $\checkmark CA$ = R318,60 $\checkmark CA$</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Accept correct answer only</div>	<p>1CA identify correct value for rounding 1CA rounding down from Q 1.2.3</p> <p style="text-align: center;">OR</p> <p>1CA identify correct value for rounding 1CA rounding up from Q 1.2.3</p> <p style="text-align: right;">(2)</p>	F L1
1.2.7 (b)	<p>C = R200 + (2 × R100) = R400 $\checkmark M/A$</p> <p>$\checkmark M$ D = R400 – R318,55 = R81,45 $\checkmark CA$</p> <p style="text-align: center;">OR</p> <p>$\checkmark M$ D = R400 – R318,60 = R81,40 $\checkmark CA$</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Accept correct answer only</div>	<p>1M/A adding money</p> <p>1M Subtracting 1CA from Q 1.2.7(a)</p> <p style="text-align: center;">OR</p> <p>1M Subtracting 1CA from Q 1.2.7(a)</p> <p style="text-align: right;">(3)</p>	F L1

Ques	Solution	Explanation	Topic
1.2.8 (a)	$\begin{aligned} \text{Profit per packet} &= \overset{\check{M}}{R14,99} - R12,00 \\ &= \overset{\check{A}}{R2,99} \\ \text{Profit per dozen} &= 12 \times \overset{\check{A}}{R2,99} \\ &= \overset{\check{CA}}{R35,88} \end{aligned}$ <p style="text-align: center;">OR</p> $\begin{aligned} \text{Cost price per dozen} &= 12 \times R12,00 \\ &= R144 \check{A} \\ \text{Selling price per dozen} &= 12 \times R14,99 \\ &= R179,88 \check{A} \\ \text{Profit per dozen} &= R179,88 - R144 \check{M} \\ &= R35,88 \check{CA} \end{aligned}$	<p>1M calculate profit per packet 1A profit 1A multiply by 12 1CA profit of 1 dozen</p> <p style="text-align: center;">OR</p> <p>1A cost price per dozen 1A selling price per dozen 1M calculate profit per dozen 1CA profit</p> <p style="text-align: right;">(4)</p>	F L1
1.2.8 (b)	$\begin{aligned} \text{Percentage mark up} &= \frac{\text{selling price} - \text{cost price}}{\text{cost price}} \times 100\% \\ &= \frac{R14,99 - R12,00}{R12,00} \times 100\% \check{SF} \\ &= 24,916\% \check{A} \\ &\approx 25\% \check{RO} \end{aligned}$ <p style="text-align: center;">OR</p> $\begin{aligned} \text{Profit} &= R14,99 - R12,00 \\ &= R2,99 \check{M} \\ \text{Percentage profit} &= \frac{R2,99}{R12,00} \times 100\% \\ &= 24,916\% \check{M} \\ &\approx 25\% \check{RO} \end{aligned}$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>Accept correct answer only</p> </div>	<p>1 SF substitute in formula 1A simplify 1RO rounding to whole percentage</p> <p style="text-align: center;">OR</p> <p>1M profit 1M % profit simplify 1RO rounding to whole percentage</p> <p style="text-align: right;">(3)</p>	F L2
			[38]

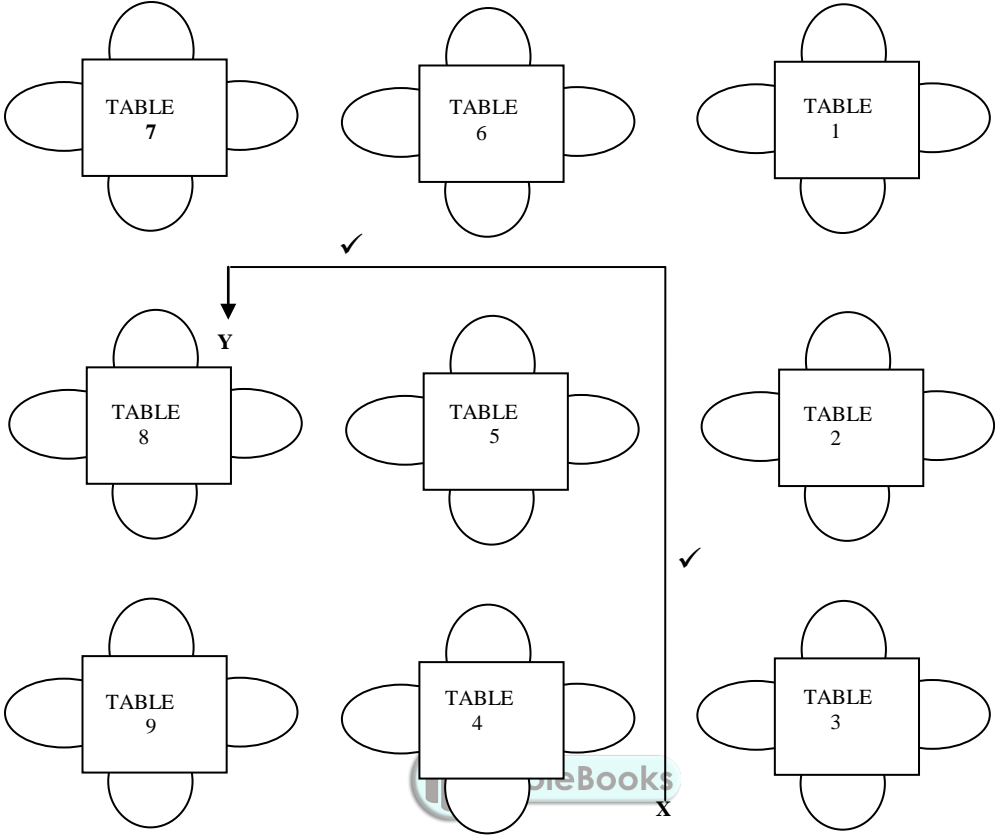
QUESTION 2 [26]			
Ques	Solution	Explanation	Topic
2.1.1	7 ✓✓A	2A number of fields Accept 2 as answer (2)	M L1
2.1.2 (a)	$\begin{aligned} \text{Length of fencing} &= 33 \text{ m} + 33 \text{ m} = 66 \text{ m} \checkmark \text{M} \checkmark \text{A} \\ \text{Total length to buy} &= 70 \text{ m} \checkmark \text{RO} \quad \text{OR} \quad 14 \text{ rolls} \end{aligned}$ <p style="text-align: center;">OR</p> $\begin{aligned} \text{Length of fencing} &= 33 \text{ m} \times 2 = 66 \text{ m} \checkmark \text{M} \checkmark \text{A} \\ \text{Total length to buy} &= 70 \text{ m} \checkmark \text{RO} \quad \text{OR} \quad 14 \text{ rolls} \end{aligned}$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Accept correct answer only</div>	1M addition 1A length 1RO rounding to nearest 5 <p style="text-align: center;">OR</p> 1M multiplying by 2 1A length 1RO rounding to nearest 5 <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Max 2 marks for 165m or 33 rolls</div>	M L1
2.1.2 (b)	$\begin{aligned} \text{Number of poles} &= 66 \text{ m} \div 1,5 \text{ m} = 44 \text{ poles} \checkmark \text{M} \checkmark \text{M} \checkmark \text{CA} \end{aligned}$ <p style="text-align: center;">OR</p> $\text{Number of poles} = (33 \div 1,5) \times 2 = 44 \text{ poles} \checkmark \text{M} \checkmark \text{M} \checkmark \text{CA}$	1M using 66 m 1M dividing by 1,5 1CA no. of poles as whole number from Q 2.1.2 (a) <p style="text-align: center;">OR</p> 1M divide by 1,5 1M multiply by 2 1CA no. of poles as whole number from Q 2.1.2 (a)	M L1
2.1.3	$\begin{aligned} \text{New length} &= 125 \text{ m} + 33 \text{ m} \\ &= 158 \text{ m} \checkmark \text{A} \end{aligned}$ <p>Length of old field : Length of extended field 125 : 158 ✓M</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Accept correct answer only</div>	1A length 1M writing as a ratio using at least 125 (2)	M L2
Ques	Solution	Explanation	Topic

2.1.4	$\text{Area} = 158 \text{ m} \times 95 \text{ m} \checkmark\text{SF}$ $\checkmark\text{CA}$ $= 15\,010 \text{ m}^2 \checkmark\text{A}$	1SF substitution 1CA area 1A unit of m^2 (3)	M L1(1) L2(2)
2.2.1	$\checkmark\text{RT}$ $\text{Diameter} = 2\,200 \text{ mm} \div 1\,000 = 2,2 \text{ m} \checkmark\text{A}$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> Accept correct answer only </div>	1RT 2200 mm 1A diameter in m (2)	M L1
2.2.2	$\text{Radius} = 1,1 \text{ m} \checkmark\text{CA}$ $\text{Volume} = 3,142 \times (1,1)^2 \times 3 \checkmark\text{SF}$ $= 11,40546 \text{ m}^3 \checkmark\text{CA}$ $= 11,40546 \text{ m}^3 \times 1\,000 \text{ l/m}^3 \checkmark\text{C}$ $= 11\,405,46 \text{ litres} \checkmark\text{CA}$ <p style="text-align: center;">OR</p> $\text{Radius} = 1,1 \text{ m} \checkmark\text{CA}$ $\text{Volume} = 3,142 \times (1,1)^2 \times 3000 \checkmark\text{SF}$ $= 11\,405,46 \text{ litres} \checkmark\checkmark\text{CA}$ <div style="text-align: center; margin-top: 10px;">  </div>	$1\text{CA radius from Q 2.2.1}$ 1SF substitution 1CA volume $1\text{C multiply by } 1\,000$ 1CA litres <p style="text-align: center;">OR</p> $1\text{CA radius from 2.2.1}$ $1\text{C multiply by } 1\,000$ 1SF substitution 2CA litres <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> Max 3 marks if calculation is simplified (with out squaring) </div> <p style="text-align: right;">(5)</p>	M L2

Ques	Solution	Explanation	Topic
2.3.1	<p>Time = 11:56 ✓RD</p> <p style="text-align: right;">✓M</p> <p>Time it switched on = 11h56 – 2h45 = 09h11</p> <p>Time it switched on = 09:11 ✓A OR 9.11 am OR 11 minutes past nine in the morning.</p> <p style="text-align: center;">OR</p> <p>Time = 11:56 ✓RD Subtract 2 hours = 9h56 Subtract 45 minutes = 9h11 ✓M</p> <p>Time it switched on = 09:11 ✓A OR 9.11 am OR 11 minutes past nine in the morning</p> <div style="text-align: center;">  </div>	<p>1RD reading time</p> <p>1M subtracting time</p> <p>1A simplify</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 5px auto;">09h11 only 2 marks</div> <p style="text-align: center;">OR</p> <p>1RD reading time</p> <p>1M subtracting time</p> <p>1A simplify</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 5px auto;">Full marks if time is read as 11:55 with answer 09:10 or 09.10 a.m. or 10 minutes past nine in the morning</div> <p style="text-align: right;">(3)</p>	M L1(2) L2(1)
2.3.2	<p>Temperature in °F = $(1,8 \times 25^\circ) + 32^\circ$ ✓SF</p> <p style="text-align: center;">✓A = $45^\circ + 32^\circ$ = 77° ✓CA</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Accept correct answer only</div>	<p>1SF substitute</p> <p>1A simplify 1CA degrees Fahrenheit</p> <p style="text-align: right;">(3)</p>	M L2
			[26]


QUESTION 3 [25]			
Ques	Solution	Explanation	Topic
3.1.1	<p style="text-align: center;">✓A</p> <p>The actual size of the shirt is 18 times bigger in reality than shown on the diagram ✓A</p> <p style="text-align: center;">OR</p> <p style="text-align: center;">✓A</p> <p>*Every unit in the diagram represents 18 units in reality ✓A</p> <p style="text-align: center;">✓A</p> <p>*Every mm/cm on diagram = 18 mm/cm in reality ✓A</p> <p style="text-align: center;">OR</p> <p>The diagram is $\frac{1}{18}$ of the actual size of shirt. ✓A</p> <p style="text-align: center;">✓A</p> <p>The diagram is 18 times smaller than the actual shirt. ✓A</p> <div style="text-align: center;">  </div>	<p>1A actual size 1A 18 times bigger</p> <p style="text-align: center;">OR</p> <p>1A unit on diagram 1A 18 units in reality</p> <p>1A mm/cm diagram 1A 18 mm/cm reality</p> <p>1A $\frac{1}{18}$ 1A actual size of shirt</p> <p>1A 18 times smaller 1A actual size of shirt</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>* Both units must be the same</p> </div> <p style="text-align: right;">(2)</p>	MP L1
3.1.2	<p style="text-align: center;">✓M</p> <p>486 mm ÷ 18 = 27 mm ✓A</p> <p style="text-align: center;">OR</p> <p>1 : 18 = s : 486 ✓M</p> <p>18s = 486</p> <p>s = $\frac{486}{18}$ mm</p> <p>= 27 mm ✓A</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>Accept correct answer only</p> </div>	<p>1M dividing by 18 1A scaled length</p> <p>1M ratio</p> <p>1A scaled length</p> <p style="text-align: right;">(2)</p>	MP L2
3.1.3	<p>10 buttons (as seen on diagram) ✓✓A</p> <p style="text-align: center;">OR</p> <p>11 buttons for assuming the collar has a button ✓✓A</p>	<p>2A number of buttons</p> <p>2A number of buttons</p> <p style="text-align: right;">(2)</p>	MP L1

Ques	Solution	Explanation	Topic
3.1.4	<p>Length of strip = 21,5 mm ✓A</p> <p>Actual length = 21,5 mm × 18 ✓M = 387 mm ✓CA</p> <p>OR</p> <p>Alternative possible measurements:</p> <p>Accept: 378 mm to 396 mm</p>	<p>1A length in mm 21mm OR 22mm 1M multiplication by 18 1CA simplify</p> <p>(3)</p>	<p>MP L1(1) L2(2)</p>
3.1.5	Right hand side ✓✓A	2A interpret diagram (2)	<p>MP L1</p>
3.2.1	<p>✓M/A K = 60 cm + 90 cm + 60 cm = 210 cm ✓A</p> <p style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Accept correct answer only</p>	<p>1M/A adding 1A simplify</p> <p>(2)</p>	<p>MP L1</p>
3.2.2	<p>✓M/A Maximum number of persons = 9×4 = 36 ✓A</p> <p style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Accept correct answer only</p>	<p>1M/A multiplying 1A no of persons</p> <p>(2)</p>	<p>MP L1</p>
3.2.3	<p>✓RD ✓CA ✓M T = 900 cm – 150 cm – (3 × 210 cm) – (2 × 50 cm) = 20 cm ✓CA</p> <p>OR</p> <p>✓CA ✓M ✓M T = (900 – 210 – 50 – 210 – 50 – 210 – 150) cm = 20 cm ✓CA</p> <p>OR</p> <p>✓M ✓M ✓M T = 900 – (60 × 6) – (90 × 3) – (50 × 2) – 150 = 900 – 880 = 20 cm ✓CA</p> <p style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Accept correct answer only</p>	<p>1RD length of 900 cm 1 CA tables × 3 1M subtracting values 1CA simplify</p> <p>OR</p> <p>1M length of 210 cm 1M subtracting 1M correct values 1CA length</p> <p>OR</p> <p>1M length of 6 chairs 1M length of 3 tables 1M spaces between tables 1CA simplify</p> <p>(4)</p>	<p>MP L2</p>

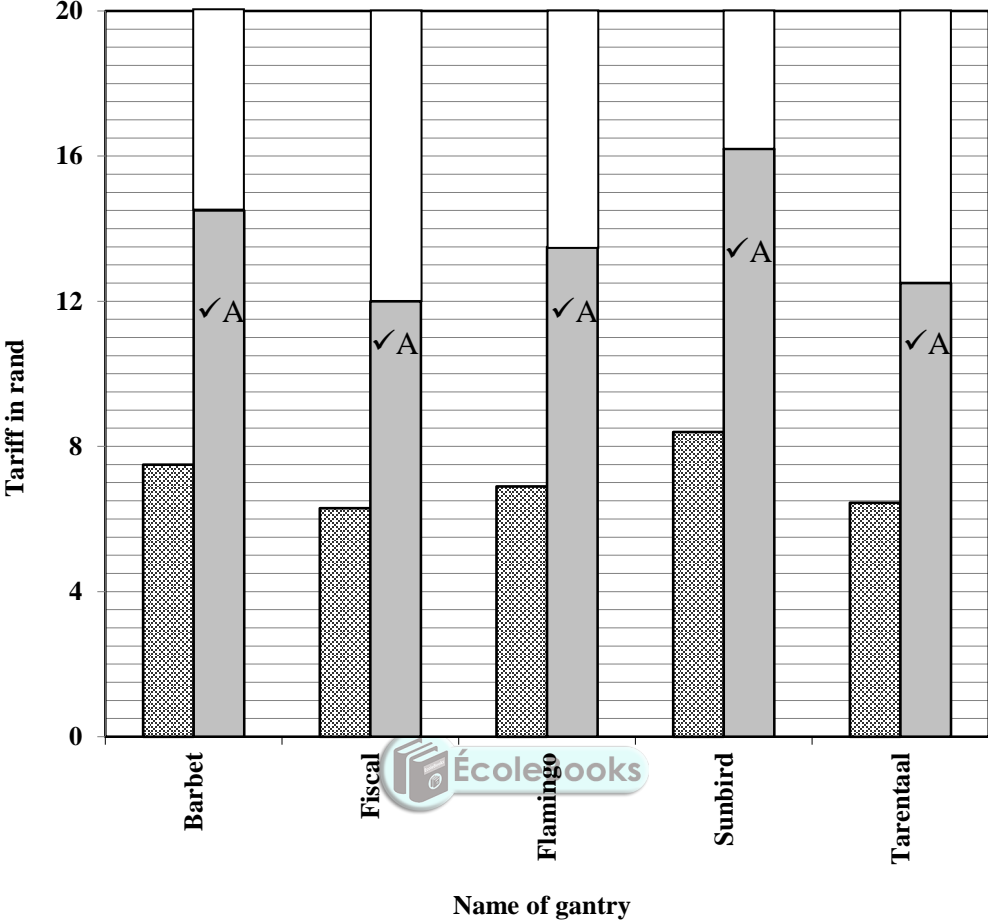
Ques	Solution	Explanation	Topic
3.2.4	 <p>1A line drawn northern direction (up), passing between 2 pairs of tables 1A line drawn western direction (left) to point Y</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Does not have to be horizontal or vertical straight lines. Accept any indication of the route.</div> <p style="text-align: right;">(2)</p>		MP L2
3.2.5	<p>South West ✓✓A</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Accept exact direction only</div>	<p>2A compass direction</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">1 mark for North East Accept SSW or WSW or NNE or ENE</div> <p style="text-align: right;">(2)</p>	MP L1


Ques	Solution	Explanation	Topic
3.2.6	<p>Two tables joined requires 6 chairs</p> <p style="text-align: center;">✓M ✓A</p> <p>Number of tables = $24 \div 6 = 4$ pairs OR 8</p> <p style="text-align: center;">OR</p> <p>2 Tables requires 6 chairs</p> <p>Ratio of tables as to chairs = $2 : 6$ ✓M = $1 : 3$</p> <p>Number of tables = $24 \div 3 = 8$ ✓A OR $24 \times \frac{2}{6}$</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>Accept correct answer only</p> </div>	<p>1M method 1A number of tables</p> <p style="text-align: center;">OR</p> <p>1M method (ratio) 1A number of tables</p> <p style="text-align: right;">(2)</p>	<p>MP L1</p>
			[25]



QUESTION 4 [37]			
Ques	Solution	Explanation	Topic
4.1.1	R13,78 ✓✓RD	2 RD Class C cost (2)	DH L1
4.1.2	✓A ✓A Ihobhe and Sunbird	1A Ihobhe 1A Sunbird Only 1 mark if two incorrect names added. No mark if more than two names added (2)	DH L1
4.1.3 (a)	Mean = $\frac{7,50 + 7,50 + 7,28 + 7,28 + 6,90 + 6,90 + 8,40 + 8,40 + 6,45}{17}$  $+ \frac{6,45 + 8,03 + 8,03 + 7,13 + 7,13 + 6,30 + 6,30 + 1,50}{17}$ ✓A $= \frac{117,48}{17}$ ✓M $= R6,91$ ✓CA <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Accept correct answer only</div>	1RT correct values 1A dividing by 17 1M sum of values 1CA mean (4)	DH L2
4.1.3 (b)	Ordering: ✓✓M/A 1,50; 6,30; 6,30; 6,45; 6,45; 6,90; 6,90; 7,13; 7,13; 7,28; 7,28; 7,50; 7,50; 8,03; 8,03; 8,40; 8,40 Median = R7,13 ✓CA <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Accept correct answer only</div>	2M/A ordering of values 1CA median (3)	DH L2

Ques	Solution	Explanation	Topic
4.1.3 (c)	<p>Median is the better representation ✓A</p> <p>The mean is affected by the R1,50 which is an outlier. ✓✓J</p> <p style="text-align: center;">OR</p> <p>✓A</p> <p>Both the mean and the median are suitable representations because the difference between them (R0,22) is negligible ✓✓J</p>	<p>1A Identify the correct central tendency (with a possible reason)</p> <p>2J Correct reason</p> <p style="text-align: center;">OR</p> <p>1A both mean and median (with a possible reason)</p> <p>2J Correct reason</p> <p style="text-align: right;">(3)</p>	DH L3
4.1.4	<p style="text-align: center;">✓RT</p> <p>Difference = R6,50 – R4,87 ✓M/A</p> <p style="text-align: center;">= R 1,63 ✓CA</p>	<p>1RT reading values from table</p> <p>1M/A subtraction (one value correct)</p> <p>1CA difference</p> <p style="text-align: right;">(3)</p>	DH L1
4.1.5	<p style="text-align: center;">✓M ✓CA</p> <p>3,21 : 8,03 = 321 : 803 OR 1 : 2,5</p>	<p>1M ratio</p> <p>1CA ratio simplified</p> <p style="text-align: right;">(2)</p>	DH L1
4.1.6	<p style="text-align: center;">✓M/A</p> <p>Amount saved = R5,63 – R2,91</p> <p style="text-align: center;">= R2,72 ✓CA</p>	<p>1M/A subtracting correct values of Pikoko</p> <p>1CA value</p> <p style="text-align: right;">(2)</p>	DH L1

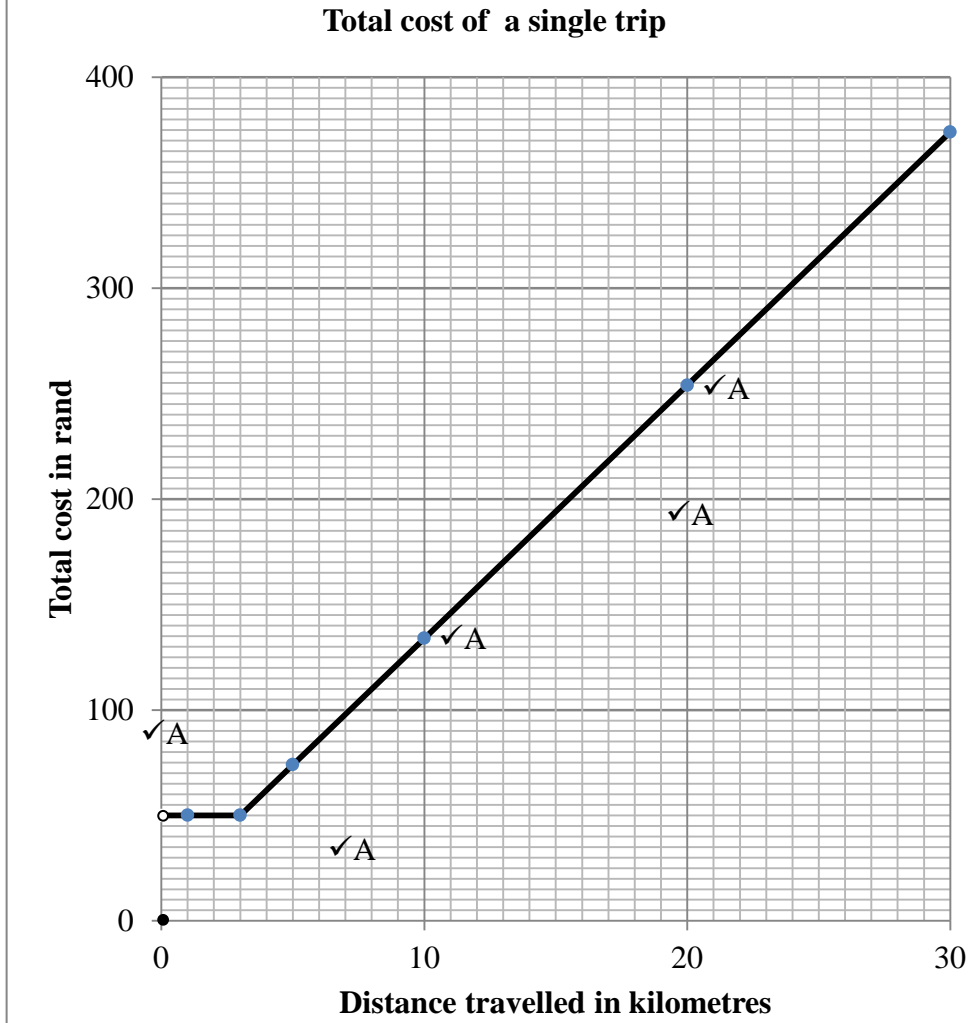
Ques	Solution	Explanation	Topic																		
4.1.7	<p style="text-align: center;">E-toll tariffs of five selected gantries</p>  <table border="1" style="margin-top: 10px;"> <caption>Data from E-toll Tariffs Chart</caption> <thead> <tr> <th>Gantry</th> <th>Patterned Bar (Rand)</th> <th>Solid Grey Bar (Rand)</th> </tr> </thead> <tbody> <tr> <td>Barbet</td> <td>7.5</td> <td>14.5</td> </tr> <tr> <td>Fiscal</td> <td>6.5</td> <td>12.0</td> </tr> <tr> <td>Flamingo</td> <td>7.0</td> <td>13.5</td> </tr> <tr> <td>Sunbird</td> <td>8.5</td> <td>16.5</td> </tr> <tr> <td>Tarentaal</td> <td>6.5</td> <td>12.5</td> </tr> </tbody> </table> <p>5A correctly drawing the 5 (five) bars/plotting the points correctly. NB: Sunbird may NOT be drawn on a gridline. MUST be between the 16 and 16,50 line.</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> Max 3 marks if values of other columns are used on condition that all 5 bars are used from the same column of values </div> <p style="text-align: right;">(5)</p>	Gantry	Patterned Bar (Rand)	Solid Grey Bar (Rand)	Barbet	7.5	14.5	Fiscal	6.5	12.0	Flamingo	7.0	13.5	Sunbird	8.5	16.5	Tarentaal	6.5	12.5		DH L2
Gantry	Patterned Bar (Rand)	Solid Grey Bar (Rand)																			
Barbet	7.5	14.5																			
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Flamingo	7.0	13.5																			
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Tarentaal	6.5	12.5																			
4.2.1	External Loans ✓✓A OR E ✓✓A	2A reading data (2)	DH L1																		
4.2.2	$100\% - (11\% + 2\% + 12\% + 3\% + 14\%) = 58\%$ <p style="text-align: center;">OR</p> $11\% + 2\% + 12\% + 3\% + 14\% = 42\%$ $100\% - 42\% = 58\%$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> Accept correct answer only </div>	1M sum of all given % 1CA required % OR 1M sum of all given % 1CA required % <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> 1 mark if 1 value is omitted </div> <p style="text-align: right;">(2)</p>	DH L1																		

Ques	Solution	Explanation	Topic
4.2.3	$\text{Value of External Loans} = \frac{14}{100} \times R587\,646\,376$ $= R82\,270\,492,64$ <p style="text-align: center;">OR</p> $100\% - 14\% = 86\%$ <p>Value of External Loans</p> $= R587\,646\,376 - 86\% \text{ of } R587\,646\,376$ $= R82\,270\,492,64$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Accept correct answer only</div>	<p>1RG correct % 1M multiplying by R587 646 376 1CA loan amount</p> <p style="text-align: center;">OR</p> <p>1RG correct %</p> <p>1M subtracting 86 % of amount 1CA loan amount</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Penalty for incorrect rounding</div> <p style="text-align: right;">(3)</p>	DH L1
4.2.4	Recreation Facilities ✓✓RG OR L ✓✓RG 	2RG reading data (2)	DH L1
4.2.5	Twenty eight ^{✓A} million, four hundred and one thousand, seven hundred and thirty six rand. ✓A	1A millions 1A word format of number <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">No penalty for units</div> <p style="text-align: right;">(2)</p>	DH L1
			[37]

QUESTION 5 [24]			
Ques	Solution	Explanation	Topic
5.1.1	$\overset{\checkmark A}{\text{Cost (R)}} = \overset{\checkmark A}{50} + 12 \times (\text{number of kilometres} - 3) \overset{\checkmark A}{}$ <p style="text-align: center;">OR</p> $\overset{\checkmark A}{\text{Cost (R)}} = \overset{\checkmark A}{50} + 12 \times (\text{number of kilometres}) - 36 \overset{\checkmark A}{}$ <p style="text-align: center;">OR</p> $\overset{\checkmark \checkmark A}{\text{Cost (R)}} = \overset{\checkmark A}{14} + 12 \times \text{number of kilometres} \overset{\checkmark A}{}$ <p style="text-align: center;">OR</p> $\overset{\checkmark A}{\text{Cost (R)}} = \overset{\checkmark A}{50} + 12 \times (\overset{\checkmark A}{k} - 3)$ <p>Where k = number of kilometres</p> <p style="text-align: center;">OR</p> $\overset{\checkmark A}{\text{Cost (R)}} = \overset{\checkmark A}{14} + 12 \times \overset{\checkmark A}{k}$ <p>Where k = number of kilometres</p>	<p>1A R50 call-out fee 1A R12 × no km 1A no. km – 3</p> <p style="text-align: center;">OR</p> <p>1A R50 call-out fee 1A R12 × no km 1A no. km – 36</p> <p style="text-align: center;">OR</p> <p>2A R14 1A R12 × no. km</p> <p style="text-align: center;">OR</p> <p>1A 50 call-out fee 1A 12 1A k – 3 (with description of k)</p> <p style="text-align: center;">OR</p> <p>1A 50 – 36 1A 12 1A k (with description)</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>Max 2 marks if variable is used and explained incorrectly</p> </div>	<p>F L2</p>
		(3)	

5.1.2

F
L2



- 1A y-intercept at R50 and *must be an open circle*
- 1A **horizontal** line from 1 – 3 km;
- 2A any other 2 points correct
- 1A **inclined** line passing through correct plotted points

(5)

Ques	Solution	Explanation	Topic																	
5.1.3	$\text{Cost (without call out fee)} = R1\ 214 - R50 = R\ 1\ 164 \quad \checkmark M/A$ $\text{Kilometres charged} = R1\ 164 \div 12 = 97\ \text{km} \quad \checkmark M$ $\text{Distance travelled} = 97 + 3 = 100\ \text{km} \quad \checkmark A$ <p style="text-align: center;">OR</p> $\begin{aligned} \text{Distance} &= [(R1\ 214 - R50) \div R12] + 3\ \text{km} \quad \checkmark M/A \quad \checkmark M \quad \checkmark M \\ &= (R1\ 164 \div R12) + 3\ \text{km} \\ &= 97\ \text{km} + 3\ \text{km} \\ &= 100\ \text{km} \quad \checkmark A \end{aligned}$ <p style="text-align: center;">OR</p> <p>If number of kilometers = n $\checkmark SF$</p> $1\ 214 = 50 + [12 \times (n - 3)]$ $1\ 214 = 50 + 12n - 36$ $12n = 1\ 214 - 50 + 36 \quad \checkmark S$ $n = \frac{1214 - 50 + 36}{12} \quad \checkmark M$ $= 100 \quad \checkmark A$ <p style="text-align: center;">OR</p> <p>Table used:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>km</td> <td>40</td> <td>50</td> <td>60</td> <td>70</td> <td>80</td> <td>90</td> <td>100</td> </tr> <tr> <td>Cost</td> <td>494</td> <td>614</td> <td>734</td> <td>854</td> <td>974</td> <td>1094</td> <td>1214</td> </tr> </table> $\text{Distance} = 100\ \text{km} \quad \checkmark \checkmark \checkmark \checkmark A$ <p style="text-align: center;">OR</p> $\begin{aligned} \text{Distance travelled} &= \frac{R1214 - R14}{R12} \text{km} \quad \checkmark M \\ &= 100\ \text{km} \quad \checkmark \checkmark A \end{aligned}$ <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>Accept correct answer only</p> </div>	km	40	50	60	70	80	90	100	Cost	494	614	734	854	974	1094	1214	<p>1M/A subtracting R50</p> <p>1M dividing by 12 1M adding 3 km 1A distance</p> <p style="text-align: center;">OR</p> <p>1M/A subtract R50 1M divide by R12 1M Adding 3 km 1A distance in km</p> <p style="text-align: center;">OR</p> <p>1SF substitution</p> <p>1S simplify 1M dividing by 12 1A distance in km</p> <p style="text-align: center;">OR</p> <p>4A distance in km</p> <p style="text-align: center;">OR</p> <p>1M value of 14 1M divide by 12 2A distance</p>	<p>(4)</p>	<p>F L2</p>
km	40	50	60	70	80	90	100													
Cost	494	614	734	854	974	1094	1214													

Ques	Solution	Explanation	Topic
5.1.4	$\begin{aligned} \text{Total taxi fare} &= \overset{\check{M}/A}{R50} + (2 \times \overset{\check{M}}{R12}) + \overset{\check{M}}{R100} + (5 \times \overset{\check{M}}{R12}) \\ &= \overset{\check{S}}{R50} + \overset{\check{S}}{R24} + \overset{\check{S}}{R100} + \overset{\check{S}}{R60} \\ &= \overset{\check{CA}}{R234,00} \end{aligned}$ <p style="text-align: center;">OR</p> <p>Return distance from meeting = $5\text{km} \times 2 = 10\text{ km} \check{A}$ Reading from table : R134 for 10 km \check{RT} Taxi fare = $R134 + R100 \check{M}$ $= R234 \check{CA}$</p> <p style="text-align: center;">OR</p> $\begin{aligned} \text{Total taxi fare} &= \overset{\check{M}/A}{50} + [12 \times (10 - 3)] + \overset{\check{M}}{100} \\ &= 50 + (12 \times 7) + 100 \check{M} \\ &= \overset{\check{S}}{50} + \overset{\check{S}}{84} + 100 \\ &= \overset{\check{CA}}{R234} \end{aligned}$ <p style="text-align: center;">OR</p> <p>Reading from graph $5\text{km} \times 2 = 10\text{ km} \check{A}$ 10 km cost R134 \check{RG} Total taxi fare = $R134 + R100 \check{M}$ $= R234 \check{CA}$</p>	<p>1M/A R50 call out fee 1M add R100 1S cost of R24 1S cost of R60 1CA cost of trip</p> <p style="text-align: center;">OR</p> <p>1M multiply 1A 10 km 1RT R134 1M add R100 1CA cost of trip</p> <p style="text-align: center;">OR</p> <p>1M/A R50 call out fee 1M subtract 3 km 1M add R100 1S 84 1CA cost of trip</p> <p style="text-align: center;">OR</p> <p>1M multiply 1A 10 km 1RG R134 1M add R100 1CA cost of trip</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>Max three marks if answer is R174 or R248</p> </div> <p style="text-align: right;">(5)</p>	<p>F L1 (2) L2 (3)</p>

Ques	Solution	Explanation	Topic
5.2.1	<p>WIN (W) → W, D (✓A), L</p> <p>DRAW (D) → W, D, L</p> <p>LOSE (L) (✓A) → W, D, L</p> <p>LD (✓A)</p> <p>NOTE: Accept answers if written in words.</p>	<p>W W</p> <p>W D</p> <p>W L</p> <p>D W</p> <p>D L</p> <p>D L</p> <p>L W</p> <p>LD (✓A)</p> <p>L L</p> <p>(3)</p>	<p>P L3</p>
5.2.2	<p>C ✓✓A</p>	<p>2A statement</p> <p>(2)</p>	<p>P L1</p>
5.2.3	<p>$\frac{5}{9}$ ✓CA</p> <p>✓CA</p> <p>OR</p> <p>≈55,56% ✓✓CA</p> <p>OR</p> <p>≈0,56 ✓✓CA</p>	<p>1CA numerator</p> <p>1CA denominator</p> <p>OR</p> <p>2CA in % form</p> <p>OR</p> <p>2CA in decimal form</p> <p>(2)</p>	<p>P L3</p>
			<p>[24]</p>