



# education

Department:  
Education  
**REPUBLIC OF SOUTH AFRICA**

## NATIONAL SENIOR CERTIFICATE

**GRADE 12**

**MATHEMATICAL LITERACY P1**

**FINAL EXAMINATION 2008**

**MARKING GUIDELINE**

**MARKS: 150**

Symbol	Explanation
M	Method
MA	Method with Accuracy
CA	Consistent Accuracy
A	Accuracy
C	Conversion
S	Simplification
RT /RG	Reading from a table / Reading from a graph
SF	Correct substitution in a formula
O	Opinion/Example
P	Penalty e.g. for no units, incorrect rounding off etc.
R	Rounding Off

**This memorandum consists of 17 pages**

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QUESTION 1 [35]		Maximum Penalty of 1 if no units given in Question 1.1.4 or 1.2.1 or 1.2.3	
Ques	Solution	Explanation	AS
1.1.1	$20\% = \frac{20}{100}$ ✓M/A OR $20\% = 0,2$ ✓M $= \frac{1}{5}$ ✓CA $= \frac{1}{5}$ ✓CA	1M Concept of % as fraction  1CA Simplification (2) ANSWER ONLY FULL MARKS	12.1.1
1.1.2	$\frac{136}{200} = \frac{136}{200} \times \frac{100}{1} \%$ ✓MA OR $\frac{136}{200} = \frac{68}{100}$ ✓MA $= 68 \%$ ✓CA $= 68 \%$ ✓CA	1MA Conversion to a %  1CA Simplification (2)  Only 68 without % full marks ANSWER ONLY FULL MARKS	12.1.1
1.1.3	$120 : 150 = 4 : 5$ ✓A	1A Correct Simplification (1)	12.1.1
1.1.4	$12\% \text{ of } 500 \text{ kg} = \frac{12}{100} \times 500 \text{ kg}$ $= 60 \text{ kg}$ ✓A So the decrease $= 500 \text{ kg} - 60 \text{ kg}$ ✓M $= 440 \text{ kg}$ ✓CA  <b>OR</b> A decrease of 12% gives a mass of 88%. ✓A Decreased mass $= 88\% \text{ of } 500 \text{ kg}$ ✓M $= \frac{88}{100} \times 500 \text{ kg}$ OR $0,88 \times 500 \text{ kg}$ $= 440 \text{ kg}$ ✓CA  <b>OR</b> Decreased mass $= (500 - \frac{12}{100} \times 500) \text{ kg}$ ✓M $= 440 \text{ kg}$ ✓CA	1A Calculating %  1M Subtraction  1CA Simplification  1A Correct Subtraction  1M Calculating %  1CA Solution  1A Correct Subtraction 1M Calculating %  1CA Solution (3) ANSWER ONLY FULL MARKS	12.1.1

Ques	Solution	Explanation	AS
1.2.1	$R\ 450 - R\ 32,40 \times 10 \quad \checkmark M$ $= R\ 450 - R\ 324$ $= R\ 126 \quad \checkmark CA$	1M Multiplying 1CA Solution (2)  <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <b>If answer given as R4 176              Maximum 1 mark only (Error in              order of operations)</b> </div> <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <b>ANSWER ONLY FULL MARKS</b> </div>	12.1.1
1.2.2	$5^2 - \sqrt{36} = 25 - 6 \quad \checkmark M$  $= 19 \quad \checkmark CA$	1M Calculating ( <b>both</b> )  1CA Simplifying (2)  <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <b>ANSWER ONLY FULL MARKS</b> </div>	12.1.1
1.2.3	$34\% \text{ of } 450 \text{ km} \quad \checkmark M \quad \text{OR} \quad = 0,34 \times 450 \text{ km}$ $= \frac{34}{100} \times 450 \text{ km}$ $= 153 \text{ km} \quad \checkmark CA$	1M Percentage as a fraction/decimal  1CA Simplifying (2)  <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <b>ANSWER ONLY FULL MARKS</b> </div>	12.1.1
1.3.1	$\frac{1}{2} \text{ lb}$ $= \frac{1}{2} \times 450 \text{ g} \quad \checkmark C \quad \text{OR} \quad 0,5 \times 450 \text{ g} \quad \text{OR} \quad \frac{450}{2} \text{ g}$  $= 225 \text{ g} \quad \checkmark CA$	1C Conversion  1CA Simplifying (2)  <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <b>ANSWER ONLY FULL MARKS</b> </div>	12.3.2
1.3.2	$1 \text{ oz} = 30 \text{ g}$  So $9 \text{ oz} = 9 \times 30 \text{ g} \quad \checkmark C$  $= 270 \text{ g} \quad \checkmark CA$	1C Conversion  1CA Simplifying (2)  <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <b>ANSWER ONLY FULL MARKS</b> </div>	12.3.2
1.3.3	Amount of sugar $= \frac{3}{4} \times 250 \text{ ml} \quad \checkmark M$ $= 187,5 \text{ ml} \quad \checkmark CA$	1M Concept of fraction  1CA Simplifying (2)  <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <b>ANSWER ONLY FULL MARKS</b> </div>	12.3.2 12.1.1
1.3.4	Temperature in $^{\circ}C$ $= (\text{Temperature in } ^{\circ}F - 32^{\circ}) \times \frac{5}{9}$  $= (350^{\circ} - 32^{\circ}) \times \frac{5}{9} \quad \checkmark SF$ $= 176,666.. ^{\circ}C \quad \checkmark CA$  $\approx 180^{\circ}C \quad \checkmark R$	<div style="border: 1px solid black; padding: 2px; width: fit-content;"> <b>ANSWER ONLY FULL MARKS</b> </div>  1SF Correct substitution  1CA Calculation  1R Rounding answer (3)	12.1.1 12.1.2 12.3.2

Ques	Solution	Explanation	AS
1.3.5	$72 \text{ tarts} = 6 \text{ dozen} = 2 \times 3 \text{ dozen}$ Number of eggs = $2 \times 4 \text{ eggs}$ $= 8 \text{ eggs}$	1C Convert into dozen  1CA Solution (2) <b>ANSWER ONLY FULL MARKS</b>	12.1.1 12.3.2
1.4.1	Entertainment; social/sports club fees; repairs; maintenance of garden; church donations; transport etc.	2O Expenses not mentioned already (2)	12.4.4 12.1.1
1.4.2	Percentage spent on communication $= 100\% - (40\% + 5\% + 30\% + 5\% + 5\%)$ $= 100\% - 85\%$ $= 15\%$	1A Adding values in brackets  1CA Simplification (2) <b>ANSWER ONLY FULL MARKS</b>	12.4.4 12.1.1
1.4.3	Savings $= \frac{15}{100} \times R20\,000$ $= R\,3\,000$	1RT/RG Reading off table and graph  1M Multiplying by the %  1CA Simplifying (3) <b>ANSWER ONLY FULL MARKS</b> <b>Mixing parent's and Nabila's data</b> <b>Maximum 2</b>	12.1.1 12.4.2
1.4.4	Amount $= \frac{30}{100} \times R\,15\,000$ $= R\,4\,500$	1RT/RG Reading off table and graph  1M Multiplying by the %  1CA Simplifying (3)	12.1.1 12.4.2

Question 2 [26]		Penalty 1 for units in Question 2.2.4	
Ques	Solution	Explanation	AS
2.1.1	$65,6\% - 53,8\% = 11,8\%$ ✓A	1A correct subtraction (1)	12.4.4
2.1.2	Radio ✓A	1A Correct appliance (1)	12.4.4
2.1.3	Video machine ✓A	1A Correct appliance (1)	12.4.4
2.1.4	<p>✓RT  <math>72,9\% \times 1\ 000</math> households  <math>= 0,729 \times 1\ 000</math>  <math>= 729</math> households ✓CA</p>	<p>1RT Correct % with % sign</p> <p>1CA Simplification (2)  <b>72 900 One mark</b>  <b>ANSWER ONLY FULL MARKS</b></p>	12.2.3 12.4.4
2.1.5	<p>Difference in percentage = <math>53,8\% - 24,4\%</math> ✓R ✓M  <math>= 29,4\%</math> ✓CA</p> <p><b>OR</b></p> <p>Difference in usage  ✓R ✓M  <math>= (53,8\% \text{ of } 1\ 000) - (24,4\% \text{ of } 1\ 000)</math>  <math>= 538 - 244</math>  <math>= 294</math> ✓CA</p> <p><b>OR</b></p> <p>✓R ✓M  <math>(53,8\% - 24,4\%) \times 1\ 000</math>  <math>= 29,4\% \times 1\ 000</math>  <math>= 294</math> ✓CA</p>	<p>1R Reading the % from the table  1M Subtraction only</p> <p>1CA Simplification (must follow from a subtraction)</p> <p><b>Note: Learner can use the 1 000 households given in question 2.1.4</b></p> <p>1R Reading the % from the table  1M Subtraction only</p> <p>1CA Simplification (must follow from a subtraction)</p> <p>1R Reading the % from the table  1M Subtraction only</p> <p>1CA Simplification (must follow from a subtraction) (3)  <b>ANSWER ONLY FULL MARKS</b></p>	12.2.3 12.4.4
2.2.1	Diameter = 62 m	1A correct value (1)	12.3.1
2.2.2	<p>The maximum height  = height of tower + length of blade  = 50 m + 31 m ✓M  = 81 m ✓A</p>	<p>1M Identifying the two values  1A Solution (2)  <b>ANSWER ONLY FULL MARKS</b></p>	12.3.1
2.2.3	<p><math>C = 2 \times \pi \times \text{radius}</math> <b>OR</b> <math>C = \pi \times \text{diameter}</math>  <math>= 2 \times 3,14 \times 31</math> ✓M <math>= 3,14 \times 62</math> m  <math>= 194,68</math> m ✓A <math>= 194,68</math> m</p>	<p>1M Substitution</p> <p>1A Simplification (2)  <b>OR (<math>\pi</math>) 194,78 OR (<math>\frac{22}{7}</math>) 194,85</b></p>	12.3.1

Ques	Solution	Explanation	AS
2.2.4	$\text{Area} = \pi r^2 \quad \checkmark\text{M}$ $= 3,14 \times (31 \text{ m})^2$ $= 3\,017,54 \text{ m}^2 \quad \checkmark\text{CA} \quad \checkmark\text{A}$	1M Substitution 1CA Simplification 1A Correct units (3) <b>OR</b> $(\pi)$ 3 019,07 <b>OR</b> $(\frac{22}{7})$ 3 020,29	12.3.1
2.2.5	Number of households $= \frac{1\,750 \text{ kW}}{25 \text{ kW per household}} \quad \checkmark\text{M/A}$ $= 70 \text{ households.} \quad \checkmark\text{CA}$	1M/A Correct division 1CA Simplification (on multiplication or division only) (2)	12.2.1
2.3.1	20 days $\checkmark\text{RG}$	1RG Reading from graph (1)	12.2.3
2.3.2	Approximately $3\frac{1}{3}$ days. <b>or</b> $\frac{20}{6}$ <b>or</b> $\frac{10}{3}$ $\checkmark\text{RG}\checkmark\text{A}$ (accept any estimated reading between $3\frac{1}{4}$ and $3\frac{1}{2}$ or 3,25 and 3,5)	1RG Reading from graph 1A estimation (2)	12.2.3
2.3.3 (a)	4 workers. $\checkmark\text{RG} \quad \checkmark\text{RG}$	2RG Reading from graph (2)	12.2.3
(b)	3 workers <b>OR</b> about 3 workers $\checkmark\text{RG}\checkmark\text{RG}\checkmark\text{RG}$ <b>OR</b> $\checkmark\text{RG} \quad \checkmark\text{RG} \quad \checkmark\text{RG}$ $2\frac{1}{2}$ workers <b>OR</b> 2 workers on a full time basis and third worker to work half of each day	3RG Reading from graph <b>OR</b> 3RG Reading from graph <b>a) 2 Marks</b> <b>2 to 3 workers OR</b> <b>from 2 to 3 workers OR</b> <b>a fractional answer between 2</b> <b>and 3 workers</b> <b>b) 1 Mark 2 workers</b> (3)	12.2.3

Question 3 [18]		Maximum Penalty of 2 for units in Question 3.1 and 3.2	
Ques	Solution	Explanation	AS
3.1	$V = l \times b \times h$ $= 2,5 \text{ m} \times 2 \text{ m} \times 1,5 \text{ m} \quad \checkmark\text{SF}$ $= 7,5 \text{ m}^3 \quad \checkmark\text{S}$ $= 7,5 \text{ kl} \quad \checkmark\text{C}$	1SF Correct substitution 1S Answer with unit 1C Conversion (3) <div style="border: 1px solid black; padding: 2px; text-align: center;">ANSWER ONLY FULL MARKS</div>	12.3.1  12.3.2
3.2	$\text{S.A.} = (l \times b) + 2 \times (l \times h) + 2 \times (b \times h) \quad \checkmark\text{F}$ $= [(2,5 \times 2) + 2 \times (2,5 \times 1,5) + 2 \times (2 \times 1,5)] \text{ m}^2 \quad \checkmark\text{SF}$ $= [5 + 2(3,75 + 3) \text{ m}^2]$ $= [5 + 2 \times 6,75] \text{ m}^2 \quad \checkmark\text{A}$ $= 18,5 \text{ m}^2 \quad \checkmark\text{CA}$	1F Formula correct 1SF Correct substitution 1A Simplifying 1CA Solution (4) <div style="border: 1px solid black; padding: 2px; text-align: center;">Other correct formula and everything is correct FULL marks</div> <div style="border: 1px solid black; padding: 2px; text-align: center;">ANSWER ONLY FULL MARKS</div>	12.3.1
3.3	$\text{Glass} = 20 \text{ m}^2 \times \text{R } 480,00 \text{ per m}^2 \quad \checkmark\text{M/A} \quad \checkmark\text{A}$ $= \text{R } 9\,600,00 \quad \checkmark\text{CA}$	1M/A Concept 1A Product 1CA Solution (3) <div style="border: 1px solid black; padding: 2px; text-align: center;">ANSWER ONLY FULL MARKS</div>	12.1.3 12.3.1

Ques	Solution	Explanation	AS
3.4	<p>A discount of 15% gives a balance of 85%. ✓A</p> <p>Amount paid for the pump</p> <p>= 85% of R 3 999,00 <b>OR</b> <math>\frac{85}{100} \times R\ 3\ 999,00</math> ✓M</p> <p><u>Can also be expressed as 0,85</u></p> <p>= R 3 399,15 ✓CA</p> <p><b>OR</b></p> <p>Discount = 15% of R 3 999,00 = R 599,85 ✓A</p> <p>Amount paid for the pump = R 3 999,00 – R 599,85 ✓M = R 3 399,15 ✓CA</p> <p><b>OR</b></p> <p>Amount paid for the pump</p> <p>= R 3 999,00 – 15% of R 3 999,00 ✓M = R 3 999,00 – R 599,85 ✓A = R 3 399,15 ✓CA</p>	<p>1A Correct subtraction</p> <p>1M Calculation</p> <p>1CA Simplifying</p> <p>1A Actual discount</p> <p>1M Subtraction 1CA Simplification</p> <p>1M Subtraction</p> <p>1A Actual discount</p> <p>1CA Simplification</p> <p>(3)</p> <p><b>ANSWER ONLY FULL MARKS</b></p>	12.1.1
3.5	<p>Time taken to fill the tank = <math>\frac{6\ 900}{2\ 300}</math> hours ✓M/A</p> <p>= 3 hours ✓A</p>	<p>1M Concept of division</p> <p>1A Simplification (2)</p> <p><b>ANSWER ONLY FULL MARKS</b></p>	12.2.1
3.6	<p>Income = ✓✓SF</p> <p>(number of adults) × R7,50 (number of children and pensioners) × R4,00</p> <p>= 900 × R 7,50 + (1 380 + 300) × R 4,00</p> <p>= 900 × R 7,50 + 1 680 × R 4,00</p> <p>= R 6 750,00 + R 6 720,00</p> <p>= R 13 470,00 ✓A</p>	<p>2SF Correct Substitution</p> <p>1A Simplification</p> <p>(3)</p> <p><b>ANSWER ONLY FULL MARKS</b></p>	12.2.1



<b>QUESTION 4 [24]</b>			
<b>Ques</b>	<b>Solution</b>	<b>Explanation</b>	<b>AS</b>
4.1.1	1 March 2006 – 28 February 2007 <b>OR</b> 12 months <b>OR</b> One year <b>OR</b> March to February	1A Correct Period (1)	12.4.4
4.1.2	Local municipality <b>OR</b> Subsidy <b>✓A</b>	1A Correct source (1)	12.4.4
4.1.3	$= \frac{\check{A} \quad \check{M}}{R \ 308\ 160} \times 100\%$ $= 69,48051948\%$ $\approx 69,5\% \check{R}$	1A Correct numerator and denominator 1M Calculating % 1A Simplification 1R Rounding off (4) <b>ANSWER ONLY FULL MARKS</b>	12.1.1 12.1.2 12.4.4
4.1.4	Average cost of one school uniform $= R10\ 047 \div 48 \quad \check{M}$ $= R209,3125 \quad \check{CA}$ $\approx R209,31 \check{R} \quad \text{OR} \quad R209,30$	1M Dividing 1CA Calculating 1R Correct rounding (3) <b>Multiplying instead of Dividing MAX 1 mark</b> <b>ANSWER ONLY FULL MARKS</b>	12.2.1 12.4.3
4.1.5	$R\ 0,08 = 1 \text{ yen} \quad \check{M}$ $R\ 57\ 120 = \frac{1 \text{ yen} \times R\ 57120}{R\ 0,08} \quad \check{A}$ $= 714\ 000 \text{ yen.} \quad \check{CA}$	1M Using the correct conversion 1A Division 1CA Solution <b>Multiply instead of dividing 1 mark</b> <b>If in Rand instead of yen maximum 2 marks</b> (3) <b>ANSWER ONLY FULL MARKS</b>	12.2.1 12.2.3
4.1.6 (a)	Petrol <b>OR</b> service fee (maintenance) <b>OR</b> license fee <b>OR</b> toll fee <b>✓O</b> (any suitable answer)	1O Any suitable transport cost (1)	12.4.4
4.1.6 (b)	The cost per kilometre $= R22\ 822 \div 18\ 554 \check{F/M}$ $= R1,23003 \check{CA}$ $\approx R1,23 \text{ OR } 123 \text{ cents} \check{R}$	1F/M Dividing 1CA Simplification 1R Cost rounded off (3) <b>ANSWER ONLY FULL MARKS</b> <b>Multiplying 1 Mark only</b> <b>NO MARKS for ADDITION or SUBTRACTION</b>	12.1.1 12.2.1



Question 5 [18]																		
Ques	Solution	AS																
5.1	<p style="text-align: center;"><b>DISTANCE COVERED DURING TRAINING PROGRAMME</b></p> <table border="1"> <caption>Data points from the line graph</caption> <thead> <tr> <th>Time in minutes</th> <th>Total distance in metres</th> </tr> </thead> <tbody> <tr><td>0</td><td>0</td></tr> <tr><td>5</td><td>400</td></tr> <tr><td>15</td><td>1400</td></tr> <tr><td>20</td><td>1400</td></tr> <tr><td>25</td><td>1650</td></tr> <tr><td>27</td><td>1950</td></tr> <tr><td>40</td><td>3150</td></tr> </tbody> </table> <p>                     ✓A ✓A Any two points plotted correctly                      ✓A Joining the points with straight lines                      ✓A rest (horizontal line 15 – 20 minutes)                      ✓A totally correct shape                      Maximum 2 marks if Bar Graph drawn                 </p>	Time in minutes	Total distance in metres	0	0	5	400	15	1400	20	1400	25	1650	27	1950	40	3150	12.2.2
Time in minutes	Total distance in metres																	
0	0																	
5	400																	
15	1400																	
20	1400																	
25	1650																	
27	1950																	
40	3150																	

(5)

Ques	Solution	Explanation	AS
5.2.1	Median time = 34 minutes ✓A	1A Correct median (1)	12.4.3
5.2.2	Sandile's times : 29; 30; 30; 31; 31; 32; 32; 32; 32; 35 Median time = $\frac{32+31}{2}$ minutes = 31,5 minutes or 31 minutes 30 seconds	1A Arranging in order  1 M calculation  1 CA solution (3)  Subtraction – break down maximum 1 ANSWER ONLY FULL MARKS	12.4.2
5.2.3	Range = $(37 - 30)$ minutes = 7 minutes ✓A	1M Method 1A Correct Range (2)  Incorrect calculations Maximum 1 mark ANSWER ONLY FULL MARKS	12.4.3
5.2.4	Sandile's mean time = $\frac{\text{Sum of Sandile's times}}{\text{no. of trials}}$ = $\frac{29 + 30 + 30 + 31 + 31 + 32 + 32 + 32 + 32 + 35}{10}$ minutes = $\frac{314}{10}$ minutes = 31,40 minutes OR 31 minutes 24 seconds	1M Using concept of mean or implied  1A addition  1 CA solution ANSWER ONLY FULL MARKS (3)	12.4.3
5.2.5	Mode = 32 minutes ✓A ✓A	2A Correct mode (2)	12.4.3
5.2.6	P(less than 35 minutes) = $\frac{7}{11}$ OR 63,64% OR 0,64	1A Numerator 1 A Denominator (2)  ANSWER ONLY FULL MARKS  Writing as a ratio maximum 1 MARK	12.4.5

<b>Question 6 [13]</b>			
<b>Ques</b>	<b>Solution</b>	<b>Explanation</b>	<b>AS</b>
6.1	A1 or 1A ✓A	1A Correct grid reference (1)	12.3.4
6.2.1	<p>Turn right into Montagu Drive. Go straight until the intersection of Montagu Drive and East Street. ✓M ✓A</p> <p>Turn left into East Street. Go along until you pass Voortrekker Street. Find friend's house before reaching Frere Street.</p> <p style="text-align: center;"><b>OR</b></p> <p>Turn right in Montagu Drive. Go straight until the intersection of Montagu Drive and Station Road. ✓M ✓A</p> <p>Turn left into Station Road. Go along until you find Voortrekker Street. Turn right in Voortrekker Street and go straight until you find East Street. Turn left in East Street. Find friend's house before reaching Frere Street.</p> <p style="text-align: center;"><b>OR</b></p> <p>Turn right into Montagu Drive. Go straight until the intersection of Montagu Drive and Short Street. ✓M ✓A</p> <p>Turn left into Short Street. Go along until you find Voortrekker Street. Turn right in Voortrekker Street and go straight until you find East Street. Turn left in East Street. Find friend's house before reaching Frere Street</p> <p style="text-align: center;"><b>OR</b></p> <p>Follow learners own solution.</p>	<p>1M Method for route</p> <p>1A Accuracy for description</p> <p>1M Method for route</p> <p>1A Accuracy for description</p> <p>1M Method for route</p> <p>1A Accuracy for description (2)</p> <div style="border: 1px solid black; padding: 2px; width: fit-content;">1 mark if any road mentioned</div>	12.3.4

Ques	Solution	Explanation	AS
6.2.2	1 m represents 16 000 m $\therefore 0,029 \text{ m represents } 16\ 000 \times 0,029 \text{ m}$ ✓M $= 464 \text{ m}$ ✓A <b>OR</b> 0,464 km <b>OR</b> 464 000 mm <b>OR</b> 46 400 cm	1M Proportion 1A Actual distance (2) <div style="border: 1px solid black; padding: 5px; background-color: #e0e0e0;"> <b>Units are important.</b>  <b>1 mark for incorrect answer and no units</b>  <b>0 marks for incorrect answer and incorrect units</b>  <b>1 mark for correct answer and incorrect units</b>  <b>2 marks for correct answer and no units</b>  <b>0 marks if divide instead of multiply</b> </div>	12.3.3
6.2.3	South <b>OR</b> S ✓A (accept South West or SW)	1A Appropriate general direction (1)	12.3.4
6.2.4	North-West <b>OR</b> NW ✓A	1A Correct relative position (1)	12.3.4

Ques	Solution	Explanation	AS
6.3.1	$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$ $= \frac{2,4 \text{ km}}{(9,5 \div 60) \text{ hours}} \quad \checkmark\text{SF} \quad \checkmark\text{C}$ $= 15 \frac{3}{19} \text{ km/h} \quad \checkmark\text{CA}$ <p>Also accept 15,16 km/h</p> <p style="text-align: center;"><b>OR</b></p> $= \frac{2,4 \text{ km}}{9,5 \text{ min}} \times 60 \quad \checkmark\text{SF} \quad \checkmark\text{C}$ $= 15 \frac{3}{19} \text{ km/h} \quad \checkmark\text{CA}$ <p>Also accept 15,16 km/h</p>	<p>1SF Correct substitution 1 Conversion to hrs</p> <p>1CA Solution (3)</p> <p>1SF Substitution 1C Conversion to hrs</p> <p>1CA Solution (3)</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>Units are important</b>  <b>2 marks for correct value and no units</b>  <b>1 mark for correct value and incorrect units</b></p> <p><b>2 marks for no conversion but correct units (km/min)</b>                      i.e. <math>\frac{2,4 \text{ km}}{9,5 \text{ min}} = \frac{24}{95} \text{ km/min}</math>  <math>= 0,25 \text{ km/min}</math></p> </div>	12.2.1 10.3.1
6.3.2	$\text{Wages} = \text{R } 50,00 + \text{no. of papers delivered} \times \text{R } 0,10$ $= \text{R } 50,00 + 150 \times \text{R } 0,10 \quad \checkmark\text{M}$ $= \text{R } 50,00 + \text{R } 15,00 \quad \checkmark\text{A}$ $= \text{R } 65,00 \quad \checkmark\text{CA}$	<p>1M Substitution 1A Simplification 1CA Solution (3)</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>Maximum 2 marks if order of operations incorrect</b>  <math>50,00 + 150 \times 0,10</math>  <math>= 200 \times 0,10</math>  <math>= \text{R}20</math></p> </div>	12.2.1

<b>Question 7 [16]</b>			
<b>Ques</b>	<b>Solution</b>	<b>Explanation</b>	<b>AS</b>
7.1.1	$\begin{aligned} \text{Amount of water used} &= 4 \times 11 \ell \quad \checkmark\text{M} \\ &= 44 \ell \quad \checkmark\text{A} \end{aligned}$	1M Concept 1A Solution (2)  <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">ANSWER ONLY FULL MARKS</div>	12.1.1
7.1.2	$\begin{aligned} \text{Reduction} &= \frac{1}{3} \times 150 \ell \quad \checkmark\text{M} \\ &= 50 \ell \quad \checkmark\text{A} \\ \text{Amount of water used} &= 150 \ell - 50 \ell \\ &= 100 \ell \quad \checkmark\text{CA} \end{aligned}$ <p style="text-align: center;"><b>OR</b></p> $\begin{aligned} \text{Reduction of } \frac{1}{3} &\text{ means that } \frac{2}{3} \text{ is used.} \quad \checkmark\text{M} \\ \text{Amount of water used} &= \frac{2}{3} \times 150 \ell \quad \checkmark\text{A} \\ &= 100 \ell \quad \checkmark\text{CA} \end{aligned}$ <p style="text-align: center;"><b>OR</b></p> $\begin{aligned} \text{Amount of water used} &= 150 \ell - \frac{1}{3} \times 150 \ell \quad \checkmark\text{M} \\ &= 150 \ell - 50 \ell \quad \checkmark\text{A} \\ &= 100 \ell \quad \checkmark\text{CA} \end{aligned}$	1M Calculating $\frac{1}{3}$ 1A Simplification  1CA Solution   1M Calculating $\frac{2}{3}$  1A Simplification  1CA Solution   1M subtracting $\frac{1}{3}$  1A Simplification  1CA Solution  (3)  <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">1 mark for <math>150 - \frac{1}{3} = 149 \frac{2}{3}</math></div>	12.1.2
7.2.1	$\begin{aligned} \text{Monthly cost} &= \text{R } 44,82 + (2 \times \text{R } 8,22) \quad \checkmark\text{M} \\ &= \text{R } 61,26 \quad \checkmark\text{CA} \end{aligned}$	1M Correct substitution 1CA Solution  (2)	12.2.1



<b>Question 7 [16]</b>			
<b>Ques</b>	<b>Solution</b>	<b>Explanation</b>	<b>AS</b>
7.2.2	$\begin{aligned} \text{The new tariff} &= \text{R } 44,82 + 15\% \text{ of R } 44,82 \quad \checkmark\text{M/A} \\ &= \text{R } 44,82 + \text{R } 6,72 \quad \checkmark\text{A} \\ &= \text{R } 51,54 \quad \checkmark\text{CA} \end{aligned}$ <p style="text-align: center;"><b>OR</b></p> $\begin{aligned} \text{The new tariff} &= 115\% \text{ of R } 44,82 \quad \checkmark\text{M} \\ &= \frac{115}{100} \times \text{R } 44,82 \\ &= \text{R } 51,54 \quad \checkmark\text{CA} \end{aligned}$	1M/A Adding 15% 1A Simplification 1CA Solution  <p style="text-align: center;"><b>OR</b></p> 1M/A Adding 15% 1A correct %  1CA Solution (3)	12.1.2
7.3.1	$\checkmark\text{R}$ R 0,00 <b>OR</b> free <b>OR</b> nil <b>OR</b> zero	1R Correct reading (1)	12.2.1
7.3.2	$\checkmark\text{R}$ $\checkmark\text{R}$ 22,5 kℓ (Accept readings between 22 kℓ and 23 kℓ)	2R Correct reading (2)	12.2.3
7.3.3	R 95 $\checkmark\text{R}$ $\checkmark\text{R}$ $\checkmark\text{A}$	2R Correct reading 1A Correct unit (3)	12.2.3
		R115 2MARKS	
		Any amount between R88 and R115 1MARK for unit ONLY	