



# basic education

Department:  
Basic Education  
**REPUBLIC OF SOUTH AFRICA**

## NATIONAL SENIOR CERTIFICATE

**GRADE 12**

**MATHEMATICAL LITERACY P1**

**NOVEMBER 2010**

**MEMORANDUM**

**MARKS: 150**

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

**This memorandum consists of 18 pages.**



<b>ANSWER ONLY: If totally correct – Full marks ; Otherwise 0</b> <b>No penalties if units of measurement are omitted</b>			
<b>Ques</b>	<b>Solution</b>	<b>Explanation</b>	<b>AS</b>
1.1.4	$3\,024\text{ cm} = 3\,024 \div 100\text{ m} \checkmark\text{M}$ $= 30,24\text{ m} \checkmark\text{A}$	1M division by 100  1A correct simplification No penalty if incorrect units are given (2)	12.3.2
1.1.5	$6\frac{1}{4}\%$ of 420 000 $= \frac{6,25}{100} \times 420\,000 \checkmark\text{M}$ $= 0,0625 \times 420\,000$ $= 26\,250 \checkmark\text{A}$  <b>OR</b> $6\frac{1}{4}\%$ of 420 000 = $\frac{25}{4}\%$ of 420 000 $\checkmark\text{M}$ $= \frac{25}{400} \times 420\,000$ $= 26\,250 \checkmark\text{A}$	1M multiplication with correct percentage  1A correct simplification Do not accept 630 000 (2)	12.1.1
1.1.6	Percentage Profit = $\frac{\text{R}1\,840 - \text{R}1\,150}{\text{R}1\,150} \times 100\% \checkmark\text{M}$ $= 60\% \text{ OR } 0,6 \text{ OR } \frac{60}{100} \checkmark\text{A}$	1M correct substitution  1A percentage profit No marks for – 37,5% Max 1 mark for – 60% (2)	12.1.3
1.2.1	21 $\checkmark\text{A}$	1A number of classes (1)	12.1.1
1.2.2 (a)	3 learners $\checkmark\checkmark\text{A}$	2A mode (2)	12.4.3
1.2.2 (b)	3 learners $\checkmark\checkmark\text{A}$	2A median (2)	12.4.3

Ques	Solution	Explanation	AS
<b>ANSWER ONLY: If totally correct – Full marks ; Otherwise 0</b> <b>No penalties if units of measurement are omitted</b>			
1.3.1	Volume = 50 cm × 40 cm × 45 cm ✓M = 90 000 cm <sup>3</sup> ✓CA	1M substituting correct values 1CA volume (2)	12.3.1
1.3.2	Height of liquid = $\frac{3000 \text{ cm}^3}{50 \text{ cm} \times 40 \text{ cm}}$ ✓M/A = $1\frac{1}{2}$ cm <b>OR</b> 1,5 cm <b>OR</b> $\frac{3}{2}$ cm ✓A	1M/A accurate substitution 1A simplification (2)	12.3.1
1.4.1	Daily payment = R12,50 × 8 $\frac{1}{2}$ ✓S = R 106,25 ✓CA <b>OR</b> Daily payment = R12,50 × 8 + $\frac{R12,50}{2}$ ✓S = R 106,25 ✓CA <b>OR</b> Daily payment = (R12,50 × 8) + (R12,50 ÷ 2) = R 100 + R6,25 = R106,25 ✓CA	1S substitution 1CA simplification <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">Max 1 mark if rounded off to 9 hours</div> (2)	12.2.1
1.4.2	Number of hours worked = $\frac{R218,75}{R12,50}$ ✓M = 17,5 or $17\frac{1}{2}$ ✓A	1M dividing by correct values 1A simplification <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">Full marks if set out as: R12,50 × 17,5 = R218,75</div> (2)	12.1.1
1.5.1	10 hours ✓✓A	2A reading from graph (2)	12.2.3
1.5.2	5 ✓✓A	2A reading from graph (2)	12.2.3
1.5.3	7 hours and 30 minutes ✓✓A <b>OR</b> 7,5 hrs ✓✓A	2A correct number of hours <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">Accept any time between 7 and 8 hours</div> (2)	12.2.3
			<b>[33]</b>

<b>QUESTION 2 [33 MARKS]</b>				
<b>ANSWER ONLY: If totally correct – Full marks; Otherwise 0</b>				
<b>Ques</b>	<b>Solution</b>	<b>Explanation</b>	<b>AS</b>	
2.1.1 (a)	Lateral surface area of the cylindrical holder $= 2 \times 3,14 \times 5 \text{ cm} \times 15 \text{ cm} \quad \checkmark\text{SF}$ $= 471 \text{ cm}^2 \quad \checkmark\text{A}$	1SF substitution of correct radius and height 1A total surface area  <table border="1" style="width: 100%;"><tr><td>Accept 471,24 cm<sup>2</sup> or 471,43 cm<sup>2</sup></td></tr></table> (2)	Accept 471,24 cm <sup>2</sup> or 471,43 cm <sup>2</sup>	12.3.1
Accept 471,24 cm <sup>2</sup> or 471,43 cm <sup>2</sup>				
2.1.1 (b)	Lateral surface area of the rectangular holder $= 2 \times (8 + 10) \text{ cm} \times 15 \text{ cm} \quad \checkmark\text{SF}$ $= 2 \times 18 \text{ cm} \times 15 \text{ cm} \quad \checkmark\text{S}$ $= 540 \text{ cm}^2 \quad \checkmark\text{CA}$	1SF substitution 1S correct addition 1CA total surface area in cm <sup>2</sup>  <table border="1" style="width: 100%;"><tr><td>Max 1 mark if incorrect formula is used Penalty if units omitted</td></tr></table> (3)	Max 1 mark if incorrect formula is used Penalty if units omitted	12.3.1
Max 1 mark if incorrect formula is used Penalty if units omitted				
2.2.1	33 minutes $\checkmark\text{RG}$	1RG correct reading  (1)	12.2.3	
2.2.2	6 minutes $\checkmark\checkmark\text{RG}$	2RG correct reading  (2)	12.2.3	
2.2.3	12 minutes – 6 minutes $\checkmark\text{RT}$ $= 6 \text{ minutes} \quad \checkmark\text{A}$	1RT correct values from the table 1A correct minutes  (2)	12.2.3	
2.2.4	2 500 m $\checkmark\checkmark\text{RG}$	2RG correct reading  <table border="1" style="width: 100%;"><tr><td>Accept any value greater than 0 up to and including 3 000 m</td></tr></table> (2)	Accept any value greater than 0 up to and including 3 000 m	12.2.3
Accept any value greater than 0 up to and including 3 000 m				
2.2.5	27 minutes $\checkmark\checkmark\text{RG}$	2RG correct reading  (2)	12.2.3	

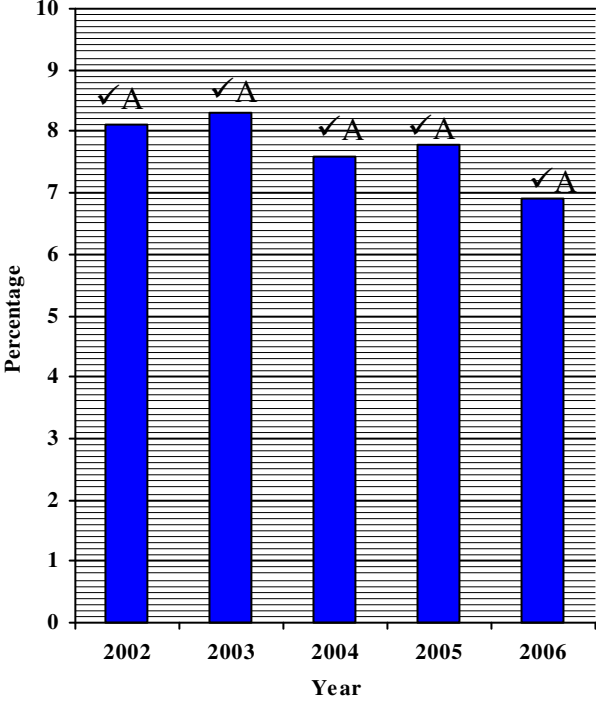
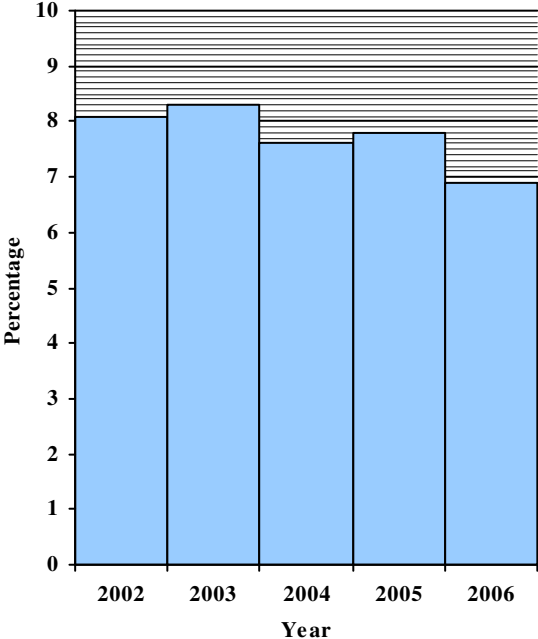
Ques	Solution	Explanation	AS
<b>ANSWER ONLY: If totally correct – Full marks; Otherwise 0</b>			
2.2.6	$10:55 + 12 \text{ minutes} \quad \checkmark M$ $= 11:07 \quad \checkmark A$	1M adding  1A solution  <div style="border: 1px solid black; padding: 2px; display: inline-block;">Max 1 mark if given as 10:67</div> (2)	12.3.1
2.2.7	$\text{Average speed} = \frac{\checkmark A \quad 3000 \text{ m}}{6 \text{ min} \quad \checkmark A}$  $= 500 \text{ m/min} \quad \checkmark CA$	1A correct distance  1A correct time  1CA simplifying  <div style="border: 1px solid black; padding: 2px; display: inline-block;">2 marks if using 1 000 m No penalty if units omitted. Max 2 marks if answer in km/h</div> (3)	12.2.1
2.3.1	$47,1 \% - 42,7\% \quad \checkmark RT$  $= 4,4 \% \quad \checkmark CA$	1RT correct values selected  1CA percentage decrease  <div style="border: 1px solid black; padding: 2px; display: inline-block;">Accept – 4,4% No penalty if % is omitted</div> (2)	12.1.1 12.4.4

<b>ANSWER ONLY: If totally correct – Full marks; Otherwise 0</b>			
<b>Ques</b>	<b>Solution</b>	<b>Explanation</b>	<b>AS</b>
2.3.2 (a)	$A = \frac{4720000}{10,0\%} \quad \text{OR} \quad \frac{4720000}{0,10} \quad \checkmark M$ $= 47\,200\,000 \quad \checkmark CA$ <p style="text-align: center;"><b>OR</b></p> <p>10,0% of the population is 4 720 000 <math>\checkmark RT</math></p> <p><math>\therefore</math> 1% of the population is <math>\frac{4720000}{10,0\%} \quad \checkmark M</math></p> <p><math>\therefore</math> 100% of the population is <math>\frac{4720000}{10,0\%} \times 100\%</math></p> $= 47\,200\,000 \quad \checkmark CA$ <p style="text-align: center;"><b>OR</b></p> <p>10% of the population is 4 720 000 <math>\checkmark RT</math></p> <p>100% of the population = <math>10 \times 4\,720\,000 \quad \checkmark M</math></p> $= 47\,200\,000 \quad \checkmark CA$	<p>1M method 1RT correct values selected</p> <p>1CA correct population</p>	12.1.1 12.4.4
2.3.2 (b)	$B = 45,0\% \times 621\,600 \quad \checkmark M \quad \checkmark RT$ $= 0,450 \times 621\,600$ $= 279\,720$ $\approx 279\,700 \quad \checkmark CA$	<p>1M method 1RT correct values selected</p> <p>1CA <span style="border: 1px solid black; padding: 2px;">rounded to nearest hundred</span></p>	12.1.1 12.4.4
2.3.2 (c)	$C = \frac{5060000}{48653800} \times 100 \quad \checkmark RT$ $= 10,40000987$ $\approx 10,4 \quad \checkmark CA$	<p>2RT correct values selected</p> <p>1CA <span style="border: 1px solid black; padding: 2px;">rounded to 1 decimal place</span></p> <p><span style="border: 1px solid black; padding: 2px;">No penalty if given as 10,4%</span></p>	12.1.1 12.4.4

<b>ANSWER ONLY: If totally correct – Full marks; Otherwise 0</b>			
<b>Ques</b>	<b>Solution</b>	<b>Explanation</b>	<b>AS</b>
2.3.3	$49\ 320\ 500 : 5\ 210\ 000 \quad \checkmark\text{RT}$ $= 1 : \frac{5\ 210\ 000}{49\ 320\ 500} \quad \checkmark\text{M}$ $= 1 : 0,105\ 635\ 5$ $\approx 1 : 0,1 \quad \checkmark\text{CA}$	1RT reading correct values  1M correct ratio  1CA simplifying ratio rounded to one decimal place  Max 2 marks if order is changed and the answer is 1 : 9,5  Max 1 mark if written as a fraction  (3)	12.1.11 2.4.4
			<b>[33]</b>



<b>QUESTION 3 [19 MARKS]</b>			
<b>ANSWER ONLY: If totally correct – Full marks; Otherwise 0</b>			
<b>Ques</b>	<b>Solution</b>	<b>Explanation</b>	<b>AS</b>
3.1.1	$R25\,460\,000\,000 + R22\,670\,000\,000 + R22\,074\,000\,000$ $+ R25\,458\,000\,000 + R26\,978\,000\,000 \quad \checkmark M$  $= R122\,640\,000\,000$ or R122 640 million $\checkmark A$	1M adding correct values 1A simplifying to the correct value  <div style="border: 1px solid black; padding: 5px;">                         Max 1 for                          R 1 599 565 000 000                          or                          R1 599 565 million                           Penalty of 1 mark if million left out in either 3.1.1 or 3.1.2                     </div> (2)	12.4.4 12.1.1
3.1.2	$R\,273\,127$ million $R\,292\,079$ million $R\,314\,927$ million $\checkmark M$  $R\,326\,385$ million $R\,393\,047$ million $\checkmark A$	1M arrangement in ascending order 1A correct values  <div style="border: 1px solid black; padding: 5px;">                         Penalty of 1 mark if million left out in either 3.1.1 or 3.1.2                           NO marks for descending order                           Max 1 mark if incorrect column values are arranged                     </div> (2)	12.4.4

Ques	Solution	Explanation	AS										
3.1.3	<table border="1" data-bbox="288 271 924 336"> <tr> <td>2002</td> <td>2003</td> <td>2004</td> <td>2005</td> <td>2006</td> </tr> <tr> <td>8,1 %</td> <td>8,3 %</td> <td>7,6 %</td> <td>7,8 %</td> <td>6,9 %</td> </tr> </table> <p data-bbox="352 369 860 421" style="text-align: center;"><b>AGRICULTURAL EXPORTS AS A PERCENTAGE OF THE TOTAL EXPORTS</b></p>  <p data-bbox="580 1211 632 1245" style="text-align: center;"><b>OR</b></p> <p data-bbox="392 1294 818 1346" style="text-align: center;"><b>AGRICULTURAL EXPORTS AS A PERCENTAGE OF THE TOTAL EXPORTS</b></p> 	2002	2003	2004	2005	2006	8,1 %	8,3 %	7,6 %	7,8 %	6,9 %	<p data-bbox="1011 271 1321 342">5A one for each correct bar</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p data-bbox="1023 383 1305 454">Do <b>NOT</b> penalise if no gaps between bars</p> <p data-bbox="1023 495 1289 678">Do <b>NOT</b> penalise if the spaces between bars are uneven and the bar widths are unequal</p> <p data-bbox="1023 719 1310 824">Maximum of 3 marks if a line graph is drawn</p> <p data-bbox="1023 864 1318 969">Bars can also be represented as vertical lines</p> </div>	12.4.2
2002	2003	2004	2005	2006									
8,1 %	8,3 %	7,6 %	7,8 %	6,9 %									

(5)

<b>ANSWER ONLY: If totally correct – Full marks; Otherwise 0</b>			
<b>Ques</b>	<b>Solution</b>	<b>Explanation</b>	<b>AS</b>
3.2.1	$450\,000\text{ m}^2 = \frac{450\,000}{10\,000}\text{ ha} \quad \checkmark\text{M}$ $= 45\text{ ha} \quad \checkmark\text{A}$ <p><b>OR</b></p> $10\,000\text{ m}^2 = 1\text{ha}$ <p>Therefore <math>450\,000\text{ m}^2 = 45 \times 10\,000\text{ m}^2 \quad \checkmark\text{M}</math></p> $= 45\text{ ha} \quad \checkmark\text{A}$	<p>1M division by 10 000</p> <p>1A number of hectares</p> <p><b>OR</b></p> <p>1M concept</p> <p>1A number of hectares</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">No penalty if units omitted</div> <p style="text-align: right;">(2)</p>	12.3.2
3.2.2	<p>Number of hectares = <math>\frac{5000}{0,65}\text{ ha} \quad \checkmark\text{M}</math></p> <p><math>= 7\,692,3\text{ ha} \quad \checkmark\text{A}</math></p> <p><math>\approx 7\,692\text{ ha} \quad \checkmark\text{CA}</math></p>	<p>1M dividing</p> <p>1A number of hectares</p> <p>1CA rounding off</p> <p style="text-align: right;">(3)</p>	12.1.1 12.2.1
3.2.3	<p>Fertiliser needed = <math>4,32 \times 2\,000\text{ kg} \quad \checkmark\text{M}\checkmark\text{A}</math></p> <p><math>= 8\,640\text{ kg} \quad \checkmark\text{CA}</math></p>	<p>2 M/A multiplication with correct values</p> <p>1CA simplifying</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">Max 2 marks if divided by 4,32</div> <p style="text-align: right;">(3)</p>	12.1.1 12.2.1
3.2.4	$\frac{0,65}{4,32} \times \frac{100\%}{1} \quad \checkmark\text{M}$ <p><math>= 15,046\% \quad \text{OR} \quad \approx 15,05\% \quad \checkmark\text{A}</math></p>	<p>1M concept</p> <p>1A solution</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">No penalty if % omitted No penalty for rounding</div> <p style="text-align: right;">(2)</p>	12.1.1
			<b>[19]</b>

<b>QUESTION 4 [19 MARKS]</b>			
<b>ANSWER ONLY: If totally correct – Full marks; Otherwise 0</b>			
<b>Ques</b>	<b>Solution</b>	<b>Explanation</b>	<b>AS</b>
4.1.1	Increasing ✓A ✓A	No penalty for omitting units	2A type of function (2) 12.2.1
4.1.2	32 °F ✓✓RG		2RG correct reading Accept 31 °F to 33 °F (2) 12.2.3
4.1.3	40 °C ✓✓RG		2RG correct reading (2) 12.2.3
4.1.4	21 °F ✓✓RG ✓R		2RG correct reading 1R rounding Accept 22 °F (3) 12.2.3
4.1.5	Range = 17 °C – <sup>✓M</sup> (-2 °C) ✓A = 17 °C + 2 °C = 19 °C ✓CA		1M calculating the range 1A correct values 1CA range max of 2 marks if : -19 °C or 15 °C or from -2 °C to 17 °C or [-2 °C ; 17 °C] (3) 12.2.3 12.1.2 12.4.3
4.2.1	Total Entrance fee ✓A ✓A = (4 + 5) × R3,50 + 10 × R6,50 = R31,50 + R65,00 = R96,50 ✓CA	2A substitution of correct values  1CA solution (3)	12.2.1 12.1.1
4.2.2	Perimeter = 3,14 × 5 m ✓SF = 15,7 m ✓A	1SF substitution 1A simplifying  Accept 15,71 m or 15,714 m No marks if diameter is not 5 m No penalty for omitting units (2)	12.3.1

<b>ANSWER ONLY: If totally correct – Full marks; Otherwise 0</b>			
<b>Ques</b>	<b>Solution</b>	<b>Explanation</b>	<b>AS</b>
4.2.3	$6\,000\ell = \frac{6\,000}{4,546} \text{ gallons } \checkmark\text{M}$ $= 1\,319,8416.. \text{ gallons}$ $\approx 1\,319,84 \text{ gallons } \checkmark\text{A}$ <p style="text-align: center;"><b>OR</b></p> $1\ell = \frac{1}{4,546} \text{ gallon}$ $\therefore 6000\ell = \frac{1}{4,546} \times 6000 \text{ gallons } \checkmark\text{M}$ $= \frac{6\,000}{4,546} \text{ gallons}$ $= 1\,319,8416.. \text{ gallons}$ $\approx 1\,319,84 \text{ gallons } \checkmark\text{A}$	<p>1 M dividing</p> <p>1A number of gallons</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">Accept up to 1 320 gallons</div> <p style="text-align: right;">(2)</p>	12.3.2
			<b>[19]</b>

<b>QUESTION 5 [22 MARKS]</b>			
<b>ANSWER ONLY:</b> <i>If totally correct – Full marks; Otherwise 0</i>			
<b>Ques</b>	<b>Solution</b>	<b>Explanation</b>	<b>AS</b>
5.1.1	South Westerly ✓ A <b>OR</b> SW <b>OR</b> SSW <b>OR</b> WS <b>OR</b> S45°W <b>OR</b> West of South <b>OR</b> South of West	1A direction     (1)	12.3.4
5.1.2	Perimeter of Mr Khoso’s plot: $= 224 \text{ m} + 200 \text{ m} + 150 \text{ m} + 200 \text{ m} + 250 \text{ m}$ $= 1\ 024 \text{ m}$ ✓ A ✓ M ✓ CA	1M Concept of perimeter 1A using correct values  1CA sum of the lengths (3)	12.3.1
5.1.3	$\text{Volume} = 3,14 \times (10 \text{ m})^2 \times 2 \text{ m}$ $= 628 \text{ m}^3$ ✓ SF ✓ A ✓ A	1SF substitution  1A simplifying  1A <span style="border: 1px solid black; padding: 2px;">correct units</span>  <div style="border: 1px solid black; padding: 5px; display: inline-block;">             Accept 628,32 m<sup>3</sup> OR 628,57 m<sup>3</sup>              Max 1mark if radius not squared           </div> (3)	12.3.1
5.1.4	$\text{Area of a cattle kraal} = \frac{1}{2} \times 200 \text{ m} \times 200 \text{ m}$ $= 20\ 000 \text{ m}^2$ ✓ A ✓ SF ✓ CA	1A height 1SF substitution  1CA simplifying  <div style="border: 1px solid black; padding: 5px; display: inline-block;">             Max 2 marks if area is equal to 22 400 m<sup>2</sup> </div> (3)	12.3.1

<b>ANSWER ONLY: If totally correct – Full marks; Otherwise 0</b>			
<b>Ques</b>	<b>Solution</b>	<b>Explanation</b>	<b>AS</b>
5.1.5	<p>Area of Mr Khoso's plot</p> $= \frac{1}{2} \times (200 \text{ m} + 150 \text{ m} + 250 \text{ m}) \times 200 \text{ m} \checkmark \text{ SF}$ $= \frac{1}{2} \times 600 \text{ m} \times 200 \text{ m} \checkmark \text{ A}$ $= 60\,000 \text{ m}^2 \checkmark \text{ CA}$ <p style="text-align: center;"><b>OR</b></p> <p>Area = Area of triangle + Area of trapezium</p> $= \frac{1}{2} \times 200 \text{ m} \times 200 \text{ m} + \frac{1}{2} (150 \text{ m} + 250 \text{ m}) \times 200 \text{ m} \checkmark \text{ SF}$ $= 20\,000 \text{ m}^2 + \frac{1}{2} (400 \text{ m}) \times 200 \text{ m} \checkmark \text{ A}$ $= 20\,000 \text{ m}^2 + 40\,000 \text{ m}^2$ $= 60\,000 \text{ m}^2 \checkmark \text{ CA}$	<p>1A adding correct parallel sides</p> <p>1SF substitution</p> <p>1A correct values</p> <p>1CA simplifying</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>Max 2 marks if area of vegetable garden is calculated as 5 625 m<sup>2</sup></p> </div> <p style="text-align: right;">(4)</p>	12.3.1
5.2.1	<p>Total mass = 2 × 2 kg + 12 × 0,12 kg <math>\checkmark</math> M</p> $= 4 \text{ kg} + 1,44 \text{ kg}$ $= 5,44 \text{ kg} \checkmark \text{ A}$	<p>1M multiplying and adding</p> <p>1A simplifying</p> <p style="text-align: right;">(2)</p>	12.3.1 12.2.1
5.2.2 (a)	<p>A = 2 × 12 <math>\checkmark</math> M</p> $= 24 \checkmark \text{ A}$ <p style="text-align: center;"><b>OR</b></p> <p>A = 4 × 6 <math>\checkmark</math> M</p> $= 24 \checkmark \text{ A}$	<p>1M multiplying</p> <p>1A number of carrots</p> <p style="text-align: right;">(2)</p>	12.2.1

<b>ANSWER ONLY: If totally correct – Full marks; Otherwise 0</b>			
<b>Ques</b>	<b>Solution</b>	<b>Explanation</b>	<b>AS</b>
5.2.2 (b)	<p>2 cabbages in 1 box</p> <p>24 cabbages in <math>\frac{24}{2}</math> boxes ✓ M</p> <p style="padding-left: 100px;">= 12 boxes ✓ A</p> <p style="text-align: center;"><b>OR</b></p> <p><math>B = \frac{144}{12}</math> ✓ M</p> <p style="padding-left: 100px;">✓ A</p> <p>B = 12 boxes</p> <p style="text-align: center;"><b>OR</b></p> <p>1 box = 14 vegetables</p> <p><math>B = \frac{168}{14}</math> ✓ M</p> <p style="padding-left: 100px;">= 12 ✓ A</p> <p style="text-align: center;"><b>OR</b></p> <p><math>B = \frac{5 \times 24}{10}</math> ✓ M</p> <p style="padding-left: 100px;">= 12 ✓ A</p>	<p>1M dividing correct values</p> <p>1A number of boxes</p>	12.2.1
5.2.3	<p>12 cabbages in 6 boxes ✓ M</p> <p>Number of carrots = <math>6 \times 12</math></p> <p style="padding-left: 100px;">= 72 ✓ CA</p> <p style="text-align: center;"><b>OR</b></p> <p>5 boxes have 10 cabbages and 60 carrots } ✓ M</p> <p>1 box has 2 cabbages and 12 carrots }</p> <p>∴ (60 + 12) carrots = 72 carrots ✓ CA</p>	<p>1M number of boxes</p> <p>1CA number of carrots</p> <p>1M both statements</p> <p>1CA number of carrots</p>	12.2.1
		(2)	
		(2)	<b>[22]</b>

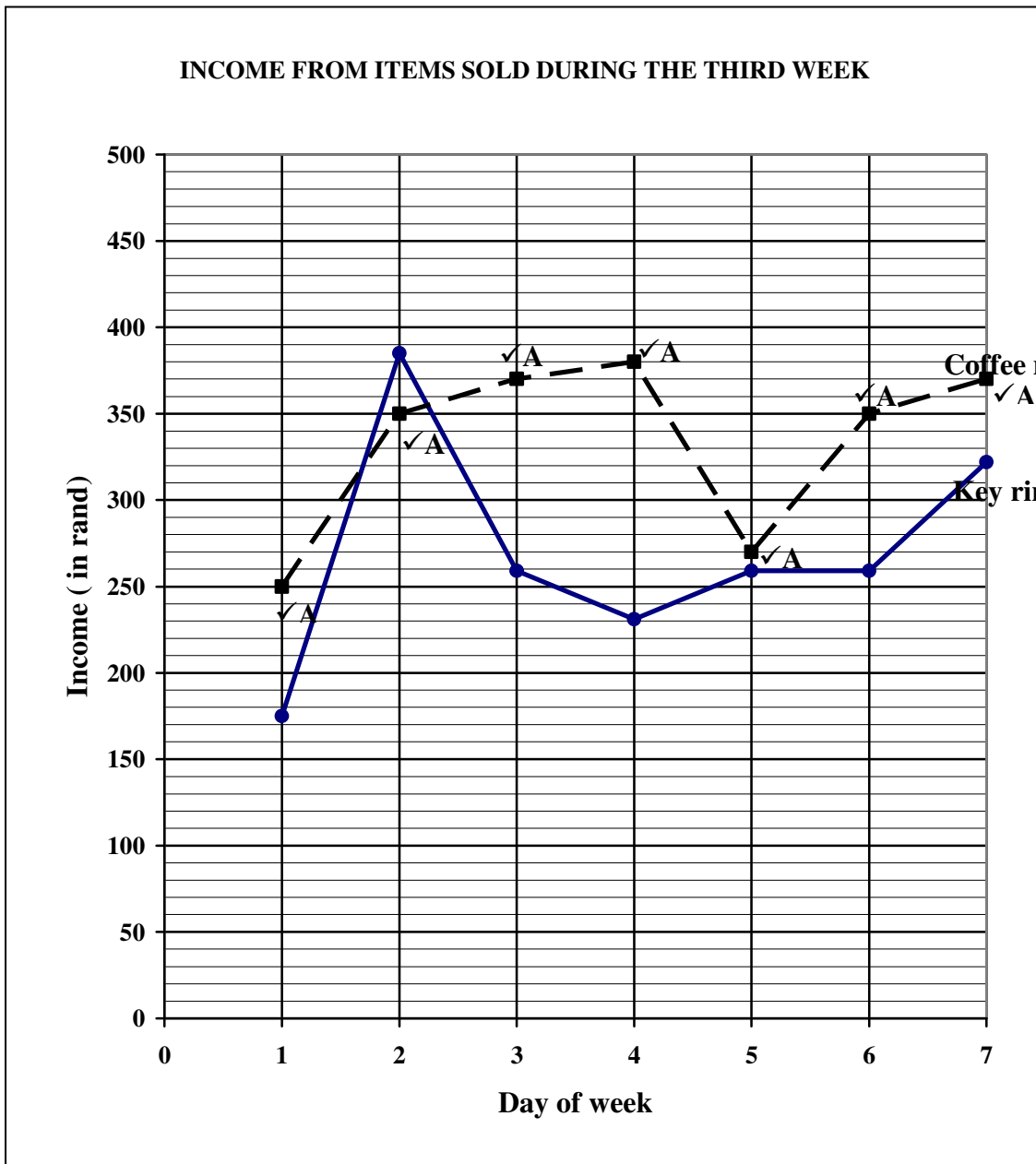


<b>QUESTION 6 [24 MARKS]</b>			
<b>ANSWER ONLY: If totally correct – Full marks; Otherwise 0</b>			
<b>Ques</b>	<b>Solution</b>	<b>Explanation</b>	<b>AS</b>
6.1.1	Mean $\checkmark$ M $= \frac{25+55+37+34+37+37+46+37+37+40+33+37+37+40}{14} \checkmark$ $= \frac{532}{14}$ $= 38 \quad \checkmark$ A	1M sum 1M dividing the sum of scores 1A simplifying <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">max 1 mark if coffee mugs used</div> (3)	12.4.3
6.1.2	$P(37 \text{ key rings}) = \frac{7}{14} \quad \checkmark$ A $= \frac{1}{2} \checkmark$ CA	1A correct numerator 1A correct denominator 1CA simplified fraction <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">Max 2 marks for 50% or 0,5</div> (3)	12.4.5 12.1.1
6.1.3 (a)	Range = 38 – 25 $\checkmark$ A = 13 coffee mugs $\checkmark$ A	1A minimum & maximum values 1A range <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">Accept –13 Max 1 mark if key rings used</div> (2)	12.4.3
6.1.3 (b)	$\checkmark$ A $\checkmark$ A Mode = 35 and 37	2A mode (2)	12.4.3
6.1.3 (c)	Median = $\frac{35+35}{2} \quad \checkmark$ M = 35 $\checkmark$ A	1M finding median 1A median (one value only) (2)	12.4.3
6.2.1	Income = 128 × R7,00 $\checkmark$ M = R896,00 $\checkmark$ CA	1M calculating income 1CA income <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">1 mark for 128 × R4,80 = R614,40</div> (2)	12.1.3

6.2.2  
(a)

**NOTE: To assist with marking, the graph that the learner has to draw is represented as a dotted line. The learners DO NOT have to draw a dotted line.**

12.2.2



A plotting (1;250)

1A plotting (2;350)

1A plotting (7;370)

1CA joining the points with a line

1A plotting (3;370)

1A plotting (5;270)

1A plotting (4;380)

1A plotting (6;350)

Max 6 marks if incorrect type of graph is drawn

(8)

6.2.2  
(b)

Day 2 ✓✓ RG/RT

2RG/RT correct days

(2)

12.4.4

[24]

**TOTAL:**

**150**