MARKS: 75

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

This memorandum consists of 7 pages.
### QUESTION 1 [13]

<table>
<thead>
<tr>
<th>Ques</th>
<th>Solution</th>
<th>Explanation</th>
<th>Level</th>
</tr>
</thead>
</table>
| 1.1.1 | Base = 6 × 15 cm = 90 cm ✓A  
Height = 3 × 15 cm = 45 cm  
Area of a triangle = \( \frac{1}{2} \times \text{base} \times \text{height} \)  
= \( \frac{1}{2} \times 90 \text{ cm} \times 45 \text{ cm} \ ✓SF \)  
= 2 025 cm² ✓CA | 1A length  
1SF substituting  
1 CA answer | (3) L3 |
| 1.1.2 | Diameter = 4 × 15 cm = 60 cm ✓A  
Radius = 30 cm ✓CA  
Area of a circle = \( \pi \times (\text{radius})^2 \)  
= 3,142 × (30 cm)² ✓SF  
= 2 827,8 cm² ✓CA | 1A diameter  
1CA radius  
1SF substituting  
1CA answer | (4) L3 |
| 1.2.1 | Length of tape  
= Perimeter of rectangle + Perimeter of square  
\( ✓SF \)  
= 2 ×60 cm + 2 × 30 cm + 4 × 30 cm  
= 120 cm + 60 cm + 120 cm ✓S  
= 300 cm ✓CA | 1SF substituting into perimeter of rectangle  
1SF substituting into perimeter of square  
1S simplification  
1CA answer | (4) L3 |
| 1.2.2 | 300 cm = 3 m ✓C  
Cost = R19,50 × 3  
= R58,50 ✓CA | 1C converting cm to m  
1CA answer | (2) L3 |
# QUESTION 2 [26]

<table>
<thead>
<tr>
<th>Ques</th>
<th>Solution</th>
<th>Explanation</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1.1</td>
<td>Tariff = R5,994 ✓ ✓RT</td>
<td>2RT reading values from table</td>
<td>L2</td>
</tr>
</tbody>
</table>
| 2.1.2 | A = 40 × R5,994 ✓M OR $A = \frac{R273,33}{1,14} ✓M$  
$= R239,76 ✓A$ | 1M multiplying/dividing  
1A answer | L2 |
| 2. 2 | $114\% \times$ amount excluding VAT = $C$  
$C = \frac{116,28 ✓M}{114% ✓A}$  
$= \frac{116,28}{1,14}$  
$= R102,00 ✓A$ | 1M concept excluding VAT  
1A dividing by 114%  
1A simplification | L3 |
| 2.3.1 | The total due includes values, like rates, on which no VAT is charged (zero rated). ✓R ✓R | 2R answer | L4 |
| 2.3.2 | VAT at B = R273,33 – R239,76  
$= R33,57 ✓CA$  
VAT at D = R116,28 – R102,00  
$= R14,28 ✓CA$  
Total VAT = R33,57 + R2,27 + R55,76 + R9,24 + R14,28 + R25,84  
= R140,96 | 1CA VAT at B  
1CA VAT at D  
1M adding all the values | L4 |
<table>
<thead>
<tr>
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<th>Level</th>
</tr>
</thead>
</table>
| 2.4  | Monthly rates \[= \text{Residential rate} \times \frac{\text{rateable value}}{12}\]  
\[R732,38 = 1,89\% \times \frac{\text{rateable value}}{12}\]  
\[12 \times R732,38 = 0,0189\]  
\[\text{Rateable value} = \frac{R732,38}{12} \times 0,0189\]  
\[= R465 \, 003,17\]  | 1SF substitution into formula  
1M/A rearranging the formula  
1A answer | L4 |
| 2.5.1 | Amount in rand \[\text{Amount in rand} = 6,20 \times 5,42 + (\text{amount used} - 6,20) \times 10,94\]  
\[= 6,20 \times 5,42 + (\text{amount used} - 6,20) \times 10,94\]  | 1A multiplying by 5,42  
1M subtracting 6,20  
1A multiplying by 10,94 | L3 |
| 2.5.2 | Graph A  
The graph shows that the tariff increases when more water is used.  
(Any other suitable explanation)  | 2A choice  
2R reason | L3 |
| 2.6.1 | Mean \[= \frac{740 + 700 + 720 + 769 + 815 + 830 + 820 + 800 + 765 + 712 + 745 + 770}{12}\]  
\[= \frac{9186}{12}\]  
\[= 765,50 \text{kWh}\]  | 1M finding mean  
1A simplifying  
1CA answer | L3 |
| 2.6.2 | During the school holidays in June, more people could be at home using electricity  
June is a winter month, and the family could be using more electricity to keep themselves warm.  
(Any other opinion/reason)  | 2O own opinion  
(Any other opinion/reason) | L4 |
| 2.6.3 | \[P(\text{less than 710}) = \frac{1}{12}\]  | 1A numerator  
1A denominator | L3 |
## QUESTION 3 [14]

<table>
<thead>
<tr>
<th>Ques</th>
<th>Solution</th>
<th>Explanation</th>
<th>Level</th>
</tr>
</thead>
</table>
| 3.1  | Number of screws $= \frac{24}{6}$  
       $= 4 \, \checkmark \, \checkmark \, A$ | 2A answer | L4 |
| 3.2  | $\checkmark \, A$  
Chair seat and stretcher | 1A chair seat  
2A stretcher | (3) L4 |
| 3.3  | Assemble the chair's side rails (C) to the front leg frame (B) using the $\checkmark \, A$  
wood dowel (J) and the JCBC screw (G) and the spring washer (H). $\checkmark \, A$  
Tighten in a clockwise direction using the Allen key (K). $\checkmark \, A$ | 1A side rails and front leg frame  
1A wood dowel, JCBC screw and spring washer  
1A direction for tightening  
1A Allen key | (4) L4 |
| 3.4  | Area $= 42 \, \text{cm} \times 41 \, \text{cm}$  
$= 1 \, 722 \, \text{cm}^2 \, \checkmark \, \text{SF} \, \checkmark \, A$ | 1SF substitution into formula  
1A answer  
1A correct unit | (3) L2 |
| 3.5  | Scale height $= \frac{94 \, \text{cm}}{23.5}$  
$= 4 \, \text{cm} \, \checkmark \, A$ | 1A using the scale  
1A answer | (2) L3 |
### QUESTION 4 [19]

<table>
<thead>
<tr>
<th>Ques</th>
<th>Solution</th>
<th>Explanation</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1.1</td>
<td>25; 29; 30; 30; 32; 35; 38; 56; 56; 58; 58; 67; 67; 70; 74; 76; 84; 85 ✓M</td>
<td>1M arranging data</td>
<td>L2 (1)</td>
</tr>
<tr>
<td></td>
<td>Mode = 58% ✓ ✓ A</td>
<td>2A mode</td>
<td>L3 (1)</td>
</tr>
<tr>
<td>4.1.2</td>
<td>Range = 85% – 25% ✓M</td>
<td>1M subtracting min and max values</td>
<td>L2</td>
</tr>
<tr>
<td></td>
<td>= 60% ✓ CA</td>
<td>1CA solution</td>
<td></td>
</tr>
<tr>
<td>4.1.3</td>
<td>✓ A</td>
<td>1A correct central values</td>
<td>L3</td>
</tr>
<tr>
<td></td>
<td>Median = (\frac{56+58}{2}) ✓M</td>
<td>1M dividing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>= 57% ✓ CA</td>
<td>1CA conclusion</td>
<td></td>
</tr>
<tr>
<td>4.2.1</td>
<td>P = 0 ✓ A</td>
<td>1A solution</td>
<td>L2</td>
</tr>
<tr>
<td></td>
<td>Q = 6 ✓ ✓ A</td>
<td>2A solution</td>
<td></td>
</tr>
<tr>
<td>4.2.2</td>
<td>P = (\frac{7}{20}) ✓M</td>
<td>1A denominator</td>
<td>L2</td>
</tr>
<tr>
<td></td>
<td>= 0,35 ✓ CA</td>
<td>1M writing probability</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1CA answer</td>
<td></td>
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</tbody>
</table>
### Ques 4.2.3

#### NUMBER OF LEARNERS PER LEVEL

<table>
<thead>
<tr>
<th>Level</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
</tr>
</tbody>
</table>

- **Level 1**: CA correct, A correct
- **Level 2**: CA correct, A correct
- **Level 3**: A correct, plot of L3
- **Level 4**: CA correct, 1A correct, plot of L6

#### Ques 4.2.4

Share = \( \frac{3}{5} \) of R600

\[
= \frac{3}{5} \times 600 = R360
\]

Each learner’s share = \( \frac{360}{2} = R180 \)

- **Level 3**
  - 1A using ratio
  - 1A simplifying
  - 1CA answer

**TOTAL:** 75