



**GAUTENG PROVINCE**  
EDUCATION  
REPUBLIC OF SOUTH AFRICA

# GAUTENG DEPARTMENT OF EDUCATION

## PREPARATORY EXAMINATION

### 2021

## MARKING GUIDELINES

### MATHEMATICAL LITERACY P1 (10601)

| Codes    | Explanation  |
|----------|--|
| M        | Method   |
| MA       | Method with Accuracy   |
| CA       | Consistent Accuracy  |
| A        | Accuracy   |
| C        | Conversion   |
| D        | Define   |
| J        | Justification/Reason/Explain/Conclusion                            |
| S        | Simplification   |
| RT/RD/RG | Reading from a table OR a graph OR a diagram<br>OR a map OR a plan |
| F        | Choosing the correct formula                                       |
| SF       | Substitution in a formula  |
| O        | Opinion  |
| P        | Penalty, e.g. for no units, incorrect rounding-off,<br>etc.        |
| R        | Rounding-off   |
| NP       | No penalty for rounding-off OR omitting units                      |

#### KEY TO TOPIC SYMBOLS:

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

## QUESTION 1

| Q     | ANSWER   | EXPLANATION   |     | LEVEL |
|-------|--|---|-----|-------|
| 1.1   |  |   |     |       |
| 1.1.1 | Multi-tank SA ✓✓ A   | 2 A Correct answer  | (2) | F1    |
| 1.1.2 | Unemployment Insurance Fund ✓✓ A   | 2A Correct answer   | (2) | F1    |
| 1.1.3 | ✓MA<br>$1\% \times R12\,790 = R127,90$ ✓A<br><br><b>OR</b><br><br>$\frac{1}{100} \times R12\,790$ ✓MA<br><br>$= R127,90$ ✓A  | 1 MA Multiplying by 1%<br>1 A Answer  | (2) | F1    |
| 1.1.4 | ✓MA<br>$R12\,790 \times \frac{100-40}{100} = R7\,674$ ✓A<br><br><b>OR</b><br><br>✓MA<br>$R12\,790 \times \frac{60}{100} = R7\,674$ ✓A<br><br><b>OR</b><br><br>$R12\,790 \times \frac{40}{100} = R5\,116$<br><br>$R12\,790 - R5\,116$ ✓MA<br>$= R7\,674$ ✓A | 1 MA Multiplying by 60%<br>1 A Correct answer<br><br><br>1 MA Multiplying by 60%<br>1 A Correct answer<br><br><br>1MA Subtracting the correct amount<br>1A Correct answer | (2) | F1    |

| Q     | ANSWER   | EXPLANATION  |     | LEVEL |
|-------|--|--|-----|-------|
| 1.1.5 | He will have less money to spend. ✓✓J<br><br><b>OR</b><br><br>His buying power will be reduced.<br><br><b>OR</b><br><br>He will buy less goods/food/petrol.  | 2J Justification<br><br><div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">Accept any reasonable/<br/>valid answer</div> | (2) | F1    |
| 1.1.6 | ✓MA<br>$R21,50 \times \frac{100+20}{100} = R25,80$ ✓A<br><br><b>OR</b><br><br>✓MA<br>$R21,50 \times 1,2 = R25,80$ ✓A<br><br><b>OR</b><br><br>$R21,50 \times \frac{20}{100} = R4,30$<br><br>✓MA<br>$R21,50 + R4,30 = R25,80$ ✓A | 1MA Multiplying by 120%<br>1A Answer<br><br><br>1MA Multiplying by 1,2<br>1A Answer<br><br><br>1MA Adding R4,30<br>1A Answer                                     | (2) | F1    |
| 1.1.7 | ✓MA<br>$400 \div 0,046 = R8\ 695,652$<br><br>$\approx R8\ 695,65$ ✓A<br><br><b>OR</b><br><br>$\frac{400}{0,046} = R\ 8\ 695,652$<br><br>$\approx R8\ 695,65$   | 1MA dividing by 0,046<br>1A Correct answer   | (2) | F1    |
| 1.2   |  |  |     |       |
| 1.2.1 | Discrete data only consists of whole numbers and continuous data consists of decimal numbers as well. ✓✓O  | 2O Correct explanation of both discrete and continuous data.   | (2) | DH1   |
| 1.2.2 | Western Cape ✓✓A   | 2A Answer  | (2) | DH1   |

| Q     | ANSWER   | EXPLANATION  |             | LEVEL |
|-------|--|--|-------------|-------|
| 1.2.3 | Range = Maximum value – Minimum value<br>44 143 – 63 ✓ RT<br>= 44 080 ✓ A                          | 2RT Correct values<br>1A Answer<br><b>Answer only, full marks</b>  | (2)         | DH1   |
| 1.2.4 | 205, 322, 362, 512, <b>1 177</b> , 3 959, 10 597,<br>12 193, 44 143 ✓ M<br><br>Median = 1 177 ✓ CA | 1M Arrangement<br>1CA Answer<br><b>Penalty:<br/>Penalise 1 mark if<br/>learner used all 10<br/>provinces and got 844,5</b><br><br><b>Answer only, full marks</b> | (2)         | DH1   |
| 1.2.5 | 205 + 322 + 362 + 512 + 1 177 + 3 959 +<br>10 597 + 12 193 + 44 143 ✓ MA<br><br>= 73 470 ✓ A       | 1MA Addition<br>1A Answer  | (2)         | DH1   |
| 1.3   |  |  |             |       |
| 1.3.1 | Males ✓✓ A   | 2A Answer  | (2)         | DH1   |
| 1.3.2 | Bar Graph ✓✓ A   | 2A Answer  | (2)         | DH1   |
| 1.3.3 | 30 – 49 years old ✓✓ A   | 2A Answer  | (2)         | DH1   |
|       |  |  | <b>[30]</b> |       |

## QUESTION 2

| Q     | ANSWER   | EXPLANATION   |     | LEVEL |
|-------|--|---|-----|-------|
| 2.1   |  |   |     |       |
| 2.1.1 | It means that people 65 years and younger, receiving <b>an annual income of R83 100 or less, does not have to pay tax.</b> ✓✓J   | 2J Reason explaining less than R83 100 and does not have to pay tax   | (2) | F4    |
| 2.1.2 | <p>Income – pension – UIF = taxable income<br/> ✓M ✓M</p> <p><math>R60\,000 - (7,5\% \times 60\,000) - R148,72</math><br/> <math>= R55\,351,28</math> ✓CA<br/> ✓M</p> <p><math>R55\,351,28 \times 12 = R664\,215,36</math> ✓CA</p> <p><b>OR</b></p> <p>✓M</p> <p><math>R60\,000 \times 12 = R720\,000</math> ✓CA</p> <p><math>R720\,000 \times \frac{7,5}{100} = R54\,000</math></p> <p><math>R720\,000 - R54\,000 = R666\,000</math> ✓M</p> <p><math>R666\,000 - (R148,72 \times 12)</math><br/> <math>= R666\,000 - R1\,784,64</math> ✓M<br/> <math>= R664\,215,36</math> ✓CA</p> <p><b>OR</b></p> <p>✓M</p> <p><math>R60\,000 \times 12 = R720\,000</math> ✓CA</p> <p><math>R720\,000 \times \frac{7,5}{100} = R54\,000</math></p> <p><math>R148,72 \times 12 = R1\,784,64</math></p> <p><math>R54\,000 + R1\,784,64 = R55\,784,64</math></p> <p><math>R720\,000 - R55\,784,64</math> ✓M✓M<br/> <math>= R664\,215,36</math> ✓CA</p> | <p>1M Subtracting pension<br/> 1M Subtracting UIF<br/> 1CA Answer<br/> 1M Multiplying by 12<br/> 1CA Answer</p> <p>1M Multiplying by 12<br/> 1CA Answer<br/> 1M Subtracting pension<br/> 1M Subtracting UIF<br/> 1CA Answer</p> <p>1M Multiplying by 12<br/> 1CA Answer<br/> 1M Subtracting pension<br/> 1M Subtracting UIF<br/> 1CA Answer</p> | (5) | F3    |

| Q                            | ANSWER  | EXPLANATION                |     | LEVEL |     |                              |                            |   |  |    |                              |                        |  |  |  |                  |  |  |  |                        |   |  |     |                            |                        |   |  |    |                            |                        |  |  |  |                  |  |  |  |                            |   |  |    |                            |                        |  |  |  |                  |  |  |  |   |  |    |
|------------------------------|---|----------------------------|-----|-------|-----|------------------------------|----------------------------|---|--|----|------------------------------|------------------------|--|--|--|------------------|--|--|--|------------------------|---|--|-----|----------------------------|------------------------|---|--|----|----------------------------|------------------------|--|--|--|------------------|--|--|--|----------------------------|---|--|----|----------------------------|------------------------|--|--|--|------------------|--|--|--|---|--|----|
| 2.1.3                        | <p style="text-align: center;">✓MA<br/> <math>(R319 \times 2) + (R215 \times 2) =</math><br/> R1 068 per month ✓A</p> <p style="text-align: center;">✓M<br/> <math>R1\ 068 \times 12 = R12\ 816</math> per year ✓ CA</p> <p><b>OR</b></p> <p style="text-align: center;">✓MA<br/> <math>(R319 + R319) + (R215 + R215)</math><br/> <math>= R638 + R430</math><br/> <math>= R1\ 068</math> ✓A</p> <p style="text-align: center;">✓M<br/> <math>R1\ 068 \times 12 = R12\ 816</math> per year ✓ CA</p> <p><b>OR</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;"><math>R319 \times 12 = R3\ 828</math></td> <td rowspan="2" style="width: 5%; text-align: center;">}</td> <td rowspan="2" style="width: 5%;"></td> <td rowspan="2" style="width: 10%; text-align: center;">✓MA</td> </tr> <tr> <td><math>R3\ 828 \times 2 = R7\ 656</math></td> </tr> <tr> <td><math>R215 \times 12 = R2\ 580</math></td> <td rowspan="2" style="text-align: center;">}</td> <td rowspan="2"></td> <td rowspan="2" style="text-align: center;">✓A</td> </tr> <tr> <td><math>R2\ 580 \times 2 = R5\ 160</math></td> </tr> <tr> <td colspan="4"><math>R7\ 656 + R5\ 160</math> ✓M</td> </tr> <tr> <td colspan="4"><math>= R12\ 816</math> ✓CA</td> </tr> </table> <p><b>OR</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;"><math>R319 \times 2 = R638</math></td> <td rowspan="2" style="width: 5%; text-align: center;">}</td> <td rowspan="2" style="width: 5%;"></td> <td rowspan="2" style="width: 10%; text-align: center;">✓MA</td> </tr> <tr> <td><math>R638 \times 12 = R7\ 656</math></td> </tr> <tr> <td><math>R215 \times 2 = R430</math></td> <td rowspan="2" style="text-align: center;">}</td> <td rowspan="2"></td> <td rowspan="2" style="text-align: center;">✓A</td> </tr> <tr> <td><math>R430 \times 12 = R5\ 160</math></td> </tr> <tr> <td colspan="4"><math>R7\ 656 + R5\ 160</math> ✓M</td> </tr> <tr> <td colspan="4"><math>= R12\ 816</math> ✓CA</td> </tr> </table> <p><b>OR</b></p> <p><math>12 \times 2 = 24</math> ✓MA</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;"><math>R319 \times 24 = R7\ 656</math></td> <td rowspan="2" style="width: 5%; text-align: center;">}</td> <td rowspan="2" style="width: 5%;"></td> <td rowspan="2" style="width: 10%; text-align: center;">✓A</td> </tr> <tr> <td><math>R215 \times 24 = R5\ 160</math></td> </tr> <tr> <td colspan="4"><math>R7\ 656 + R5\ 160</math> ✓M</td> </tr> <tr> <td colspan="4"><math>= R12\ 816</math> ✓CA</td> </tr> </table> <p><b>OR</b></p> | $R319 \times 12 = R3\ 828$ | }   |       | ✓MA | $R3\ 828 \times 2 = R7\ 656$ | $R215 \times 12 = R2\ 580$ | } |  | ✓A | $R2\ 580 \times 2 = R5\ 160$ | $R7\ 656 + R5\ 160$ ✓M |  |  |  | $= R12\ 816$ ✓CA |  |  |  | $R319 \times 2 = R638$ | } |  | ✓MA | $R638 \times 12 = R7\ 656$ | $R215 \times 2 = R430$ | } |  | ✓A | $R430 \times 12 = R5\ 160$ | $R7\ 656 + R5\ 160$ ✓M |  |  |  | $= R12\ 816$ ✓CA |  |  |  | $R319 \times 24 = R7\ 656$ | } |  | ✓A | $R215 \times 24 = R5\ 160$ | $R7\ 656 + R5\ 160$ ✓M |  |  |  | $= R12\ 816$ ✓CA |  |  |  | <p>1MA Addition and multiplication<br/> 1A Answer<br/> 1M Multiplying by 12<br/> 1CA Answer</p> <p>1MA Addition<br/> A Answer<br/> 1M Multiplying by 12<br/> 1CA Answer</p> <p>1MA Multiplication by 12 and 2<br/> 1A Both answers<br/> 1M Addition<br/> 1CA Answer</p> <p>1MA Multiplication by 12 and 2<br/> 1A Both answers<br/> 1M Addition<br/> 1CA Answer</p> <p>1MA for 24<br/> 1A Both Answers<br/> 1M Addition<br/> 1CA Answer</p> |  | F2 |
| $R319 \times 12 = R3\ 828$   | }   |                            |     |       |     | ✓MA                          |                            |   |  |    |                              |                        |  |  |  |                  |  |  |  |                        |   |  |     |                            |                        |   |  |    |                            |                        |  |  |  |                  |  |  |  |                            |   |  |    |                            |                        |  |  |  |                  |  |  |  |   |  |    |
| $R3\ 828 \times 2 = R7\ 656$ |   |                            |     |       |     |                              |                            |   |  |    |                              |                        |  |  |  |                  |  |  |  |                        |   |  |     |                            |                        |   |  |    |                            |                        |  |  |  |                  |  |  |  |                            |   |  |    |                            |                        |  |  |  |                  |  |  |  |   |  |    |
| $R215 \times 12 = R2\ 580$   | }   |                            | ✓A  |       |     |                              |                            |   |  |    |                              |                        |  |  |  |                  |  |  |  |                        |   |  |     |                            |                        |   |  |    |                            |                        |  |  |  |                  |  |  |  |                            |   |  |    |                            |                        |  |  |  |                  |  |  |  |   |  |    |
| $R2\ 580 \times 2 = R5\ 160$ |   |                            |     |       |     |                              |                            |   |  |    |                              |                        |  |  |  |                  |  |  |  |                        |   |  |     |                            |                        |   |  |    |                            |                        |  |  |  |                  |  |  |  |                            |   |  |    |                            |                        |  |  |  |                  |  |  |  |   |  |    |
| $R7\ 656 + R5\ 160$ ✓M       |   |                            |     |       |     |                              |                            |   |  |    |                              |                        |  |  |  |                  |  |  |  |                        |   |  |     |                            |                        |   |  |    |                            |                        |  |  |  |                  |  |  |  |                            |   |  |    |                            |                        |  |  |  |                  |  |  |  |   |  |    |
| $= R12\ 816$ ✓CA             |   |                            |     |       |     |                              |                            |   |  |    |                              |                        |  |  |  |                  |  |  |  |                        |   |  |     |                            |                        |   |  |    |                            |                        |  |  |  |                  |  |  |  |                            |   |  |    |                            |                        |  |  |  |                  |  |  |  |   |  |    |
| $R319 \times 2 = R638$       | }   |                            | ✓MA |       |     |                              |                            |   |  |    |                              |                        |  |  |  |                  |  |  |  |                        |   |  |     |                            |                        |   |  |    |                            |                        |  |  |  |                  |  |  |  |                            |   |  |    |                            |                        |  |  |  |                  |  |  |  |   |  |    |
| $R638 \times 12 = R7\ 656$   |   |                            |     |       |     |                              |                            |   |  |    |                              |                        |  |  |  |                  |  |  |  |                        |   |  |     |                            |                        |   |  |    |                            |                        |  |  |  |                  |  |  |  |                            |   |  |    |                            |                        |  |  |  |                  |  |  |  |   |  |    |
| $R215 \times 2 = R430$       | }   |                            | ✓A  |       |     |                              |                            |   |  |    |                              |                        |  |  |  |                  |  |  |  |                        |   |  |     |                            |                        |   |  |    |                            |                        |  |  |  |                  |  |  |  |                            |   |  |    |                            |                        |  |  |  |                  |  |  |  |   |  |    |
| $R430 \times 12 = R5\ 160$   |   |                            |     |       |     |                              |                            |   |  |    |                              |                        |  |  |  |                  |  |  |  |                        |   |  |     |                            |                        |   |  |    |                            |                        |  |  |  |                  |  |  |  |                            |   |  |    |                            |                        |  |  |  |                  |  |  |  |   |  |    |
| $R7\ 656 + R5\ 160$ ✓M       |   |                            |     |       |     |                              |                            |   |  |    |                              |                        |  |  |  |                  |  |  |  |                        |   |  |     |                            |                        |   |  |    |                            |                        |  |  |  |                  |  |  |  |                            |   |  |    |                            |                        |  |  |  |                  |  |  |  |   |  |    |
| $= R12\ 816$ ✓CA             |   |                            |     |       |     |                              |                            |   |  |    |                              |                        |  |  |  |                  |  |  |  |                        |   |  |     |                            |                        |   |  |    |                            |                        |  |  |  |                  |  |  |  |                            |   |  |    |                            |                        |  |  |  |                  |  |  |  |   |  |    |
| $R319 \times 24 = R7\ 656$   | }   |                            | ✓A  |       |     |                              |                            |   |  |    |                              |                        |  |  |  |                  |  |  |  |                        |   |  |     |                            |                        |   |  |    |                            |                        |  |  |  |                  |  |  |  |                            |   |  |    |                            |                        |  |  |  |                  |  |  |  |   |  |    |
| $R215 \times 24 = R5\ 160$   |   |                            |     |       |     |                              |                            |   |  |    |                              |                        |  |  |  |                  |  |  |  |                        |   |  |     |                            |                        |   |  |    |                            |                        |  |  |  |                  |  |  |  |                            |   |  |    |                            |                        |  |  |  |                  |  |  |  |   |  |    |
| $R7\ 656 + R5\ 160$ ✓M       |   |                            |     |       |     |                              |                            |   |  |    |                              |                        |  |  |  |                  |  |  |  |                        |   |  |     |                            |                        |   |  |    |                            |                        |  |  |  |                  |  |  |  |                            |   |  |    |                            |                        |  |  |  |                  |  |  |  |   |  |    |
| $= R12\ 816$ ✓CA             |   |                            |     |       |     |                              |                            |   |  |    |                              |                        |  |  |  |                  |  |  |  |                        |   |  |     |                            |                        |   |  |    |                            |                        |  |  |  |                  |  |  |  |                            |   |  |    |                            |                        |  |  |  |                  |  |  |  |   |  |    |

|       |  |   |     |    |
|-------|--|---|-----|----|
|       | $12 \times 2 = 24$ ✓MA<br>R319 + R215<br>✓A<br>$= R534 \times 24$ ✓M<br>$= R12\,816$ ✓CA   | 1MA for 24<br>1A Total or 1M Addition of both values<br>1M Multiplying by 24<br>1CA Answer  | (4) |    |
| 2.1.4 | $R155\,505 + 39\% (R664\,215,36 - R584\,200)$ ✓RT<br>✓SF<br>$= R155\,505 + (39\% \times R80\,015,36)$<br>$= R155\,505 + R31\,205,99$<br>$= R186\,710,99$ ✓CA<br>✓M<br>$R186\,710,99 - R14\,958 = R171\,752,99$<br>✓M<br>$R171\,752,99 - R12\,816 = R158\,936,99$<br>✓M<br>$R158\,936,99 \div 12 = R13\,244,75$ ✓CA<br>No, her claim is NOT VALID. ✓J | <b>CA from Q 2.1.2 and Q 2.1.3</b><br>1RT Correct tax bracket<br>1SF Substitute into formula<br>1CA Answer<br>1M Subtract rebate<br>1M Subtract medical tax credits<br>1M Division by 12<br>1CA Answer<br>1J Opinion/Conclusion |     | F4 |

|  |   |
|--|---|
| <p><b>OR</b></p> <p><b>Annual Tax payable:</b></p> <p style="text-align: center;">✓RT</p> <p>R155 505 + 39% of income above R584 200</p> <p>R155 505 + 39% × (R664 215,36 – R584 200)</p> <p style="text-align: center;">✓SF</p> <p>= R155 505 + <math>\left(\frac{39}{100} \times R80\,015,36\right)</math></p> <p>= R155 505 + R312 065,99</p> <p>= R186 710,99 ✓CA</p> <p><b>Rebate:</b></p> <p style="text-align: center;">✓M</p> <p>R186 710,99 – R14 958 = R171 752,99</p> <p><b>Medical Tax credits:</b></p> <p style="text-align: center;">✓M</p> <p>R171 752,99 – R12 816 = R158 936,99</p> <p><b>Monthly Tax payable:</b></p> <p><math>\frac{R158\,936,99}{12}</math> ✓M</p> <p>= R13 244,75 ✓CA</p> <p>No, her claim is NOT VALID. ✓J</p> | <p>1RT Correct tax bracket</p> <p>1SF Substitute in formula</p> <p>1CA Answer</p> <p>1M Subtract rebate</p> <p>1M Subtract medical tax credits</p> <p>1M Division by 12</p> <p>1CA Answer</p> <p>1J Opinion</p> |
|--|---|



|  |   |  |  |
|--|---|--|--|
| <p><b>OR</b></p> <p><b>Annual Tax payable:</b></p> <p style="text-align: center;">✓RT</p> <p>R155 505 + 39% of income above R584 200</p> <p>R155 505 + 39% × (R664 215,36 – R584 200)</p> <p style="text-align: center;">✓SF</p> $= R155\ 505 + \left( \frac{39}{100} \times R80\ 015,36 \right)$ <p>= R155 505 + R312 065,99</p> <p>= R186 710,99 ✓CA</p> <p><b>Rebate and medical tax credits:</b></p> <p style="text-align: center;">✓M      ✓M</p> <p>R186 710,99 – R14 958 – R12 816</p> <p>= R158 936,99</p> <p><b>Monthly Tax payable:</b></p> $\frac{R158\ 936,99}{12} \quad \checkmark M$ <p>= R13 244,75 ✓CA</p> <p>No, her claim is NOT VALID. ✓J</p> | <p>1RT Correct tax bracket</p> <p>1SF Substitute in formula</p> <p>1CA Answer</p> <p>1M Subtract rebate</p> <p>1M Subtract medical tax credits</p> <p>1M Division by 12</p> <p>1CA Answer</p> <p>1J Opinion</p> |  |  |
|--|---|--|--|

|       |   |  |     |    |
|-------|---|--|-----|----|
|       | <b>OR</b>   |  |     |    |
|       | <p><b>Annual Tax payable:</b></p> <p style="text-align: center;">✓RT</p> <p>R155 505 + 39% of income above R584 200</p> <p>R155 505 + 39% × (R664 215,36 – R584 200)</p> <p style="text-align: center;">✓SF</p> <p>= R155 505 + <math>\left(\frac{39}{100} \times R80\ 015,36\right)</math></p> <p>= R155 505 + R312 065,99</p> <p>= R186 710,99 ✓CA</p> <p><b>Rebate:</b></p> <p style="text-align: center;">✓M</p> <p>R186 710,99 – R14 958 = R171 752,99</p> <p><b>Monthly tax before medical tax deductions:</b></p> <p><math>\frac{R171\ 752,99}{12}</math> ✓M</p> <p>= R14 312,75</p> <p><b>Medical tax credits:</b></p> <p>R14 312,75 – (2 × R319) – (2 × R215)</p> <p>= R14 312,75 – R638 – R430</p> <p>= R14 312,75 – R1 068 ✓M</p> <p>= R13 244,75 ✓CA</p> <p>No, her claim is NOT VALID ✓J</p> | <p>RT Correct tax bracket</p> <p>1SF Substitute in formula</p> <p>1CA Answer</p> <p>1M Subtract rebate</p> <p>1M Division by 12</p> <p>1M Subtract medical tax credits</p> <p>1CA Answer</p> <p>1J Opinion</p> |     |    |
|       |   |  | (8) |    |
| 2.2   |   |  |     |    |
| 2.2.1 | <p style="text-align: center;">✓RT      ✓M</p> <p>R92 400 – R37 700 = R54 700 ✓CA</p>   | <p>1RT Correct values from table</p> <p>1M subtraction/concept of difference</p> <p>1CA answer</p>   | (3) | F1 |

| Q     | ANSWER  | EXPLANATION   |     | LEVEL |
|-------|---|---|-----|-------|
| 2.2.2 | <p>✓MA<br/> <math>12 \times R20\,725</math><br/> <math>= R248\,700</math> ✓A</p> <p>Private High School in 2025 ✓RT</p> <p><b>OR</b></p> <p>2020: <math>R148\,300 \div 12 = R12\,358,33</math><br/> ✓MA<br/> 2025: <math>R248\,700 \div 12 = R20\,725</math> ✓A</p> <p>Private High School in 2025 ✓RT</p>  | <p>1MA Multiplying by 12<br/> 1A Answer<br/> 1RT Reading year from table</p> <p>1MA Division by 12<br/> 1A Answer<br/> 1RT Reading year from table</p>  | (3) | F1    |
| 2.2.3 | <p><b>Year 1 (2022)</b><br/> ✓MA<br/> <math>R88\,635,77 + (R88\,635,77 \times 6,6\%)</math><br/> <math>= R94\,485,73</math> ✓A</p> <p><b>Year 2 (2023)</b><br/> <math>R94\,485,73 + (R94\,485,73 \times 6,6\%)</math><br/> <math>= R100\,721,79</math> ✓CA</p> <p><b>Year 3 (2024)</b><br/> <math>R100\,721,79 + (R100\,721,79 \times 6,6\%)</math><br/> <math>= R107\,369,43</math> ✓CA</p> <p>University fees for 2025 – savings = shortfall<br/> ✓RT<br/> <math>R107\,600 - R107\,369,43 = R230,57</math> ✓CA</p> <p>Joshua is correct, R250 would cover the shortfall ✓O</p> <p><b>OR</b></p> <p>Joshua is incorrect, the amount is less than R250</p> <p><b>OR</b></p> | <p>1MA Multiplying by 6,6%<br/> 1A Answer for 1<sup>st</sup> year<br/> 1CA Answer for 2<sup>nd</sup> year<br/> 1CA Answer for 3<sup>rd</sup> year<br/> 1RT Reading University fees from table for 2025<br/> 1CA Difference<br/> 1O Opinion</p> <p><i>NOTE: If Compound interest formula was used:<br/> Award FULL MARKS, given that the answer is 100% correct.<br/> NO marks if answer is incorrect.</i></p> |     | F4    |

|   |  |  |  |
|---|--|--|--|
| <p><b>Year 1 (2022)</b><br/> <math>R88\ 653,77 \times \frac{6,6}{100} = R5\ 851,14882 \quad \checkmark MA</math><br/> <math>\checkmark A</math><br/> <math>R88\ 653,77 + R5\ 851,14882 = R94\ 504,91882</math></p> <p><b>Year 2 (2023)</b><br/> <math>R94\ 504,91882 \times \frac{6,6}{100} = R6\ 237,324642</math><br/> <math>R94\ 504,91882 + R6\ 237,324642</math><br/> <math>= R100\ 742,2435 \quad \checkmark CA</math></p> <p><b>Year 3 (2024)</b><br/> <math>R100\ 742,2435 \times \frac{6,6}{100} = R6\ 648,988068</math><br/> <math>R100\ 742,2435 + R6\ 648,988068</math><br/> <math>= R107\ 391,2316</math><br/> <math>= R107\ 391,23 \quad \checkmark CA</math></p> <p><b>Difference:</b><br/> <math>\checkmark RT</math><br/> <math>R107\ 600 - R107\ 391,23 = R208,77 \quad \checkmark CA</math></p> <p>Joshua is correct, R250 would cover the shortfall <math>\checkmark O</math></p> <p><b>OR</b></p> <p>Joshua is incorrect, the amount is less than R250</p> <p><b>OR</b></p> <p><b>Year 1 (2022)</b><br/> <math>\checkmark MA</math><br/> <math>R88\ 653,77 \times 1,066 = R94\ 504,91882 \quad \checkmark A</math></p> <p><b>Year 2 (2023)</b><br/> <math>R94\ 504,91882 \times 1,066 = R100\ 742,2435</math><br/> <math>\checkmark CA</math></p> <p><b>Year 3 (2024)</b><br/> <math>R100\ 742,2435 \times 1,066 = R107\ 391,23 \quad \checkmark CA</math></p> <p><b>Difference:</b><br/> <math>\checkmark RT</math><br/> <math>R107\ 600 - R107\ 391,23 = R208,77 \quad \checkmark CA</math></p> <p>Joshua is correct, R250 would cover the shortfall <math>\checkmark O</math></p> <p><b>OR</b></p> <p>Joshua is incorrect, the amount is less than R250</p> | <p>1MA Multiplying by 6,6%<br/> 1A Answer for 1<sup>st</sup> year<br/> 1CA Answer for 2<sup>nd</sup> year<br/> 1CA Answer for 3<sup>rd</sup> year<br/> 1RT Reading University fees from table for 2025<br/> 1CA Difference<br/> 1O Opinion</p> <p>1MA Multiplying by 1,066<br/> 1A Answer for 1<sup>st</sup> year<br/> 1CA Answer for 2<sup>nd</sup> year<br/> 1CA Answer for 3<sup>rd</sup> year<br/> 1RT Reading University fees from table for 2025<br/> 1CA Difference<br/> 1O Opinion</p> |  |  |
|---|--|--|--|

| Q     | ANSWER   | EXPLANATION  |     | LEVEL |
|-------|--|--|-----|-------|
| 2.3   |  |  |     |       |
| 2.3.1 | R200,00 ✓✓RT   | 2RT Reading from table   | (2) | F1    |
| 2.3.2 | <p>Conversion to rand:</p> $\frac{69,36}{100} = R0,6936$ $\frac{81,60}{100} = R0,8160$ <p style="text-align: right;">} ✓C</p> <p>First 50 kWh<br/> <math>50 \times R0,6936 = R34,68</math> ✓A</p> <p>286 kWh – 50 kWh = 236 kWh ✓A</p> <p>Next 236 kWh<br/> <math>236 \times R0,8160 = R192,576</math> ✓CA</p> <p>Total:<br/> <math>R34,68 + R192,576 = R227,256</math><br/> <math>= R227,26</math> ✓CA</p> <p><b>OR</b></p> <p>First 50 kWh<br/> <math>50 \times 69,36 = 3\,468c</math> ✓A</p> <p>286 kWh – 50 kWh = 236 kWh ✓A</p> <p>Next 236 kWh<br/> <math>236 \times 81,60 = 19\,257,6c</math> ✓CA</p> <p>Total:<br/> <math>3\,468 + 19\,257,6 = 22\,725,6c</math> ✓CA</p> <p>Conversion to rand:<br/> ✓C<br/> <math>\frac{22\,725,6}{100} = R227,256</math><br/> <math>= R227,26</math></p> | <p>1C Conversion to rand<br/> 1A Answer for 50 kWh<br/> 1A Difference<br/> 1CA Answer<br/> 1CA Total</p> <p>1A Answer for 50 kWh in cents<br/> 1A Difference<br/> 1CA Answer<br/> 1CA Total<br/> 1C Conversion to rand</p> |     | F3    |
|       |  |  | (5) |       |

| Q     | ANSWER  | EXPLANATION  |     | LEVEL       |
|-------|---|--|-----|-------------|
| 2.3.3 | Cost excluding VAT:<br>$\checkmark$ MA<br>$R720 \times \frac{100}{115} = R626,0869565 \checkmark A$<br><br><b>OR</b><br><br>$\checkmark$ MA<br>$\frac{R720}{1,15} = R626,0869565 \checkmark A$<br><br>Cost excluding fixed monthly fee:<br>$R626,0869565 - R200 = R426,0869565 \checkmark CA$<br><br>Cost per unit in Rand:<br><br>$\frac{70,855}{100} = R0,70855 \checkmark C$<br><br>kWh used:<br><br>$\frac{R426,0869565}{R0,70855} = 601,3505843$<br><br>$= 601,35 \text{ kWh used } \checkmark CA$ | 1MA for VAT exclusive method<br>1A Answer<br>1CA Cost excluding fixed monthly fee<br>1C Conversion<br>1CA Answer | (5) | F2          |
|       |   |  |     | <b>[44]</b> |

QUESTION 3

| Q     | ANSWER   | EXPLANATION  |     | LEVEL |
|-------|--|--|-----|-------|
| 3.1   |  |  |     |       |
| 3.1.1 | Range = Maximum – Minimum ✓M<br>= 78,2% - 60,6% ✓ MA<br>= 17,6% ✓ A  | 1M Range concept<br>1MA Correct values in correct order<br>1A Answer   | (3) | DH2   |
| 3.1.2 | Bi-modal = 70,2% ✓A and 78,2% ✓A   | 2A Correct Answers   | (2) | DH2   |
| 3.1.3 | Arrangement of values:<br>60,6 ; 67,8 ; 70,2 ; 70,2 ; 72,5 ; 73,9 ;<br>75,1 ; 75,8 ; 78,2 ; 78,2 ✓MA<br><br>Median = $\frac{72,5 + 73,9}{2}$ ✓MA<br><br>$= \frac{146,4}{2}$<br><br>= 73,2 ✓ CA | 1MA Correct arrangement<br>1MA Correct values divided by 2<br>1CA Answer   | (3) | DH3   |
| 3.1.4 | Continuous ✓A<br>The data consists of decimal numbers. ✓✓J<br><br><b>OR</b><br><br>Continuous ✓A<br>The data can be measured ✓✓J   | 1A Continuous<br>2J Correct definition   | (3) | DH4   |
| 3.1.5 | IQR = Q3 – Q1<br><br>Q3 = 75,8%<br>Q1 = 70,2%<br><br>✓A<br>IQR = 75,8% - 70,2% ✓M<br>= 5,6% ✓ CA   | 1A Correct Quartile 1 and 3 values<br>1M IQR method/concept<br>1CA Answer  | (3) | DH3   |
| 3.1.6 | The third Quartile value (Q3) represents 75% of the data collected. ✓✓ J<br><br><b>OR</b><br><br>The third Quartile value (Q3) represents $\frac{3}{4}$ of the data collected. ✓✓ J            | 2J Explanation of Q3, must include 75%<br><br><div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <b>Accept any reasonable/<br/>valid explanation<br/>including 75%</b> </div> | (2) | DH4   |
| 3.1.7 | Probability = $\frac{4}{10}$ ✓✓MA<br><br>$= \frac{2}{5}$ ✓S  | 1MA Denominator<br>1MA Numerator<br>1S Simplification  | (3) | P2    |

| Q     | ANSWER  | EXPLANATION  |      | LEVEL |
|-------|---|--|------|-------|
| 3.2   |   |  |      |       |
| 3.2.1 | <p><b>Ordinary pass rate:</b><br/>The pass rate dropped/decreased/fell from 2015 to 2016 and then increased/went up/went higher from 2016 to 2018. ✓✓J</p> <p><b>University pass rate:</b><br/>There is a continuous increase from 2015 to 2018. ✓✓J</p> <p><b>OR</b></p> <p><b>University pass rate:</b><br/>There is an increase from 2015 to 2016, and another increase from 2016 – 2017 and another increase from 2017 – 2018 ✓✓J</p>   | <p>2J Explanation of the trend of ordinary pass rate</p> <p>2J Explanation of the trend of university pass rate</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p><b>Penalise learner if years are not used</b></p> </div>  | (4)  | DH4   |
| 3.2.2 | <p>Biased ✓A<br/>The data was only collected from one province instead of all the provinces. ✓J</p> <p><b>OR</b></p> <p>Biased ✓A<br/>The data was only collected from a small part of the country. ✓J</p> <p><b>OR</b></p> <p>Biased ✓A<br/>The data does not represent the whole country, only one part. ✓J</p>   | <p>1A Biased<br/>1J Explanation</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p><b>Accept any valid/reasonable answer referring to the entire country or only part of the country</b></p> </div>  | (2)  | DH4   |
| 3.2.3 | <p>Survey questions:</p> <ol style="list-style-type: none"> <li>1. Did you attend school every day?</li> <li>2. How long before the exams did you start studying?</li> <li>3. Did you study every day?</li> <li>4. What are you going to study next year?</li> <li>5. What or who influenced your choice to study further?</li> <li>6. Who will finance your studies?</li> <li>7. Will you get a part-time job to help pay for your studies?</li> <li>8. How did COVID-19 influence your approach to school and your studies?</li> <li>9. Did any of your parents attend university?</li> </ol> | <p>4O Four questions asked relating to the University pass rate</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p><b>9 Possible options are given – mark only the first four answers; any relevant/valid questions relating to a learner who achieved a university entrance can be accepted.</b></p> </div> | (4)  | DH4   |
|       |   |  | [29] |       |



## QUESTION 4

| Q     | ANSWER   | EXPLANATION  |     | LEVEL |
|-------|--|--|-----|-------|
| 4.1   |  |  |     |       |
| 4.1.1 | 3 days in Jan + 28 days in Feb + 31 days in March ✓MA<br>= 62 days ✓CA<br>✓M<br>$\frac{\$1\,348\,258\,224}{62} = \$21\,746\,100,39$ ≈ \$22 000 000 ✓R  | 1MA Mark for adding<br>1CA for Answer<br>1M for Dividing by days<br>1R Rounding to the nearest million   | (4) | F3    |
| 4.1.2 | $62 \text{ days} \times 60 \text{ tickets} \times \$76 = \$282\,720$<br>✓M                    ✓MA                    ✓CA<br><br><b>OR</b><br>$60 \text{ tickets} \times \$76 = \$4\,560 \text{ per day}$ ✓MA<br>✓M<br>$\$4\,560 \times 62 \text{ days} = \$282\,720$ ✓CA<br><br><b>OR</b><br>$62 \text{ days} \times \$76 = \$4\,712$ ✓M<br>✓MA<br>$\$4\,712 \times 60 \text{ tickets} = \$282\,720$ ✓CA | 1M Multiplying tickets by days ( <b>CA from 4.1.1.</b> )<br>1MA Multiplying tickets by \$76<br>1CA Mark for answer<br><br>1MA Multiplying tickets by \$76<br>1M Multiplying with days ( <b>CA from 4.1.1.</b> )<br>1CA Answer<br><br>1M Multiplying days by \$76 ( <b>CA from 4.1.1.</b> )<br>1MA Multiplying amount by 60<br>1CA Answer | (3) | F2    |
| 4.1.3 | ✓M<br>$\$282\,720 \times 11,8321$<br>= R3 345171,312 ✓CA   | ( <b>CA from 4.1.2.</b> )<br>1M Multiply by 11,8321<br>1CA Mark for answer   | (2) | F1    |

| Q     | ANSWER  | EXPLANATION   |     | LEVEL |
|-------|---|---|-----|-------|
| 4.1.4 | $60 \times R120 = R7\ 200$ <i>total income</i> ✓MA<br>$40\% \times R7\ 200 = R2\ 880$ <i>lockdown income</i><br>✓CA<br><br>✓M<br>$R7\ 200 - R2\ 880 = R4\ 320$ loss<br><br><b>OR</b><br>$60 \text{ people} \times \frac{40}{100}$<br><br>$= 24$ people allowed to attend daily ✓CA<br><br>$24 \text{ people} \times R120 = R2\ 880$<br><br>$\text{Total} = 60 \text{ people} \times R120 = R7\ 200$ ✓CA<br>✓M<br>$\text{Loss} = R7\ 200 - R2\ 880 = R4\ 320$ loss | 1MA Total income per day<br>1CA Calculating 40% of total income<br>1M Subtracting difference<br><br><br>1MA Calculating number of people attending daily<br>1CA Calculating total income per day<br>1M Subtracting difference | (3) | F2    |
| 4.2   |   |   |     |       |
| 4.2.1 | R200 ✓✓A  | 2A Marks for answer   | (2) | F1    |
| 4.2.2 | Minimum fee of R30 when you make a deposit ✓✓A<br><br><b>OR</b><br>When you make a deposit at FNB bank<br><br><b>OR</b><br>When you make a deposit of less than R5 000<br><br><b>OR</b><br>When you make a deposit of R5 000 or less<br><br><b>OR</b><br>Minimum fee when you make a deposit of less than R5 000<br><br><b>OR</b><br>When you make a deposit at FNB of less than R5 000   | 2A Marks for answer   | (2) | F2    |

| Q            | ANSWER  | EXPLANATION  |     | LEVEL |
|--------------|---|--|-----|-------|
| 4.2.3        | $R8,40 + \left( R1,49 \times \frac{R11\ 300}{100} \right) \checkmark MA$ $= R8,40 + R168,37$ $= R176,77 \checkmark CA$ <p><b>OR</b></p> $\frac{R11\ 300}{100} = 113$ $113 \times R1,49 = R168,37 \checkmark MA$ $R8,40 + R168,37 = R176,77 \checkmark CA$ | <p>1MA Multiplication by R11 300 and R1,49<br/>1CA Mark for answer</p> <p>1MA Multiplying 113 by R1,49<br/>1CA Answer</p>                                | (2) | F2    |
| 4.2.4<br>(a) | $\checkmark MA$ $\frac{2,4\%}{12} \checkmark A = 0,2\% \checkmark CA$ <p><b>OR</b></p> $\frac{2,4}{100} = 0,024 \checkmark MA$ $\frac{0,024}{12} \checkmark A$ $= 0,002 \checkmark CA$  | <p>1MA Correct percentage<br/>1A Mark for dividing by 12<br/>1CA Mark for answer</p> <p>1MA Calculating decimal<br/>1A Division by 12<br/>1CA Answer</p> | (3) | F1    |

| Q            | ANSWER   | EXPLANATION  |     | LEVEL |
|--------------|--|--|-----|-------|
| 4.2.4<br>(b) | <p>Month 1<br/>✓M<br/><math>R11\ 300 \times 0,002 = R22,60</math> ✓CA<br/><math>R11\ 300 + R22,60 = R11\ 322,60</math> ✓CA</p> <p>Month 2<br/><math>R11\ 322,60 \times 0,002 = R22,6452</math> ✓CA<br/><math>R22,60 + R22,65 = R45,25</math> ✓CA</p> <p><b>OR</b></p> <p>Maand 1<br/>✓M<br/><math>R11\ 300 \times \frac{0,2}{100} = R22,60</math> ✓CA<br/><math>R11\ 300 + R22,60 = R11\ 322,60</math> ✓CA</p> <p>Month 2<br/><math>R11\ 322,60 \times \frac{0,2}{100} = R22,6452</math> ✓CA<br/><math>R22,60 + R22,65 = R45,25</math> ✓CA</p> | <p><b>CA from 4.2.2</b><br/>1M Multiplication by decimal<br/>1CA Interest for 1st month<br/>1CA Total interest for 1st month<br/>1CA Interest for 2nd month<br/>1CA Total interest</p> <p><b>CA from 4.2.2</b><br/>1M Multiplying by 0,2%<br/>1CA Interest for 1st month<br/>1CA Total interest for first month<br/>1CA Interest for 2nd month<br/>1CA Total interest</p> <p><i>NOTE: If compound interest formula was used:<br/>Award FULL MARKS, given that the answer is 100% correct.<br/>NO marks if answer is incorrect.</i></p> | (5) | F3    |
| 4.3          |  |  |     |       |
| 4.3.1        | <p>✓M<br/><math>R40\ 000 \div 300 = R133,33 \dots</math> ✓CA<br/><math>\approx R130,00</math> income per person ✓R</p> <p><b>OR</b></p> <p><math>\frac{R40\ 000}{300}</math> ✓M<br/><math>= R133,3333333\dots</math> ✓CA<br/><math>\approx R130</math> ✓R</p>  | <p>1M Division by 300<br/>1CA Answer<br/>1R Rounding</p> <p>1M Division by 300<br/>1CA Answer<br/>1R Rounding</p>  | (3) | F2    |

| Q     | ANSWER   | EXPLANATION  |     | LEVEL |
|-------|--|--|-----|-------|
| 4.3.2 | $\begin{aligned} & \checkmark \text{RT} \\ & (R40\,000 - R30\,000) \div 500 \quad \checkmark \text{M} \\ & \quad \checkmark \text{MA} \\ & = R20 \text{ cost per person} \quad \checkmark \text{CA} \\ \\ & \text{OR} \\ & \frac{R40\,000 - R30\,000}{500} \\ \\ & \quad \checkmark \checkmark \text{MA} \\ & = \frac{R10\,000}{500} \\ & \quad \checkmark \text{M} \\ \\ & = R20 \text{ per person} \quad \checkmark \text{CA} \end{aligned}$ | <p>1 RT Mark for the fixed expenses (R30 000)<br/>1MA Mark for subtracting 1M for Dividing by 500<br/>1 CA Mark for cost per person</p> <p>2MA Calculating difference between total expense and fixed cost<br/>1M Dividing by 500<br/>1CA Answer</p> | (4) | F2    |
| 4.3.3 | $\begin{aligned} & \checkmark \text{M} \\ & \frac{R130 - R20}{R20} \times 100 = 550\% \quad \checkmark \text{CA} \\ & \quad \checkmark \text{M} \\ \\ & \text{OR} \\ \\ & \frac{R130 - R20}{R20} \times 100 \\ \\ & \quad \checkmark \text{M} \\ & = \frac{R110}{R20} \times 100 \\ & \quad \checkmark \text{M} \\ \\ & = 550\% \quad \checkmark \text{CA} \end{aligned}$  | <p><b>CA from 4.3.2</b><br/>1M Difference between amounts<br/>1M Division<br/>1CA Percentage</p> <p>1M Difference<br/>1M Division<br/>1CA Percentage</p>   | (3) | F2    |

| Q     | ANSWER   | EXPLANATION  |      | LEVEL             |
|-------|--|--|------|-------------------|
| 4.4   |  |  |      |                   |
| 4.4.1 | <b>Grade 11s from 2014 – 2019:</b><br>✓MA<br>827 677, 864 618, <u>858 769</u> , 869 513, 890 971<br><br><b>Grade 12s from 2014 – 2019:</b><br>✓MA<br>501 303, 512 735, <u>534 484</u> , 610 178, 644 536   | 1MA Correct order of grade 11s<br><br>1MA Correct order of grade 12s   | (2)  | DH 2              |
| 4.4.2 | Median = 534 484<br><br>Quartile 3 (Q3) = $\frac{644\,536 + 610\,178}{2}$<br><br>$= \frac{1\,254\,714}{2}$<br><br>= 627 357 ✓A<br><br>Quartile 1 (Q1) = $\frac{501\,303 + 512\,735}{2}$<br><br>$= \frac{1\,014\,038}{2}$<br><br>= 507 019 ✓A<br><br>IQR = Q3 – Q1<br><br>= 627 357 – 507 019 ✓M<br><br>= 120 338 ✓CA | 1A Q3<br>1A Q1<br>1M Concept of IQR<br>1CA Answer<br><br><div style="border: 1px solid black; padding: 5px;"> <p><b>If range is used, no marks.<br/>CA only if other values are used and the concept IQR is used.</b></p> </div> | (4)  | DH3               |
| 4.4.3 | None ✓✓A<br>No mode  | 2A Answer  | (2)  | DH 1              |
| 4.4.4 | Mean = $\frac{\text{Total}}{5}$<br><br>Mean = $\frac{501\,303 + 512\,735 + 534\,484 + 610\,178 + 644\,536}{5}$<br>✓MA<br>$= \frac{2\,803\,236}{5}$<br>✓MA<br>= 560 647,2 ✓CA   | 1MA Addition or total<br>1MA Division by 5<br>1CA Answer   | (3)  | DH2               |
|       |  |  | [47] |                   |
|       |  |  |      | <b>TOTAL: 150</b> |