

## GENERAL EDUCATION AND TRAINING CERTIFICATE

## NQF LEVEL 1

## ABET LEVEL 4 SITE-BASED ASSESSMENT

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| **LEARNING AREA** | **:** | **MATHEMATICS AND**  **MATHEMATICAL SCIENCES** |
| **CODE** | **:** | **MMSC4** |
| **TASK** | **:** | **ASSIGNMENT** |
| **TIME** | **:** | **2 WEEKS** |
| **MARKS** | **:** | **50** |

**This assessment task consists of 7 pages and an Annexure of 1 page**.

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| INSTRUCTIONS AND INFORMATION |  |  |

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| 1. | Answer ALL the questions in the ANSWER BOOK. |  |  |

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| 2. | Use the grid on the Annexure to answer QUESTION 3.2.2. Write your name in the spaces provided and hand it in together with your answer book. |  |  |

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| 3. | Calculators may be used, but you must show ALL calculations. |  |  |

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| 4. | Read the questions carefully before you write down the answers. |  |  |

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| 5. | Write legibly and present your work clearly. |  |  |

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| 6. | Number the answers correctly and clearly in accordance with the numbering system used in this assignment. |  |  |

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| Graphs can tell us a lot about real-life situations. In this Assignment we will look at a few graphs. |  |  |

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| **QUESTION 1** |  |  |

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| 1.1 | The graph below shows the attendance of learners in a Mathematics class at a certain AET centre. No learners were absent on days 2, 6 and 9. Use the graph to answer the questions that follow. |  |  |

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|  | 1.1.1 | Copy and complete the following table to show the learner attendance on certain days. |  |  |

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|  | 1.1.2 | How many learners are in the Mathematics class? |  | (1) |

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|  | 1.1.3 | How many learners were absent on day 7? |  | (2) |

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|  | 1.1.4 | Do you think that the attendance of the Mathematics learners over the 10 days was good? Give a reason for your answer. |  | (2) |

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| 1.2 | The graph shows a journey that Denver and his father made to Johannesburg. They arrived in Johannesburg at 12:00. |  |  |

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|  | 1.2.1 | At what time did they start their journey? |  | (1) |

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|  | 1.2.2 | How many times did they stop along the road? |  | (1) |

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|  | 1.2.3 | At what time between 9:00 and 12:00 did they stop? |  | (1) |

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|  | 1.2.4 | How far did they travel to Johannesburg? |  | (2) |

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|  | 1.2.5 | Calculate the average speed at which they travelled between 9:00 and 10:30? [Hint: Speed = distance ÷ time] |  | (3) |

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| **QUESTION 2** |  |  |

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| 2.1 | Thandi had a fever and was admitted to hospital where she was given medicine. The graph shows Thandi’s temperature after taking the medicine. |  |  |

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|  | 2.1.1 | What was Thandi’s temperature after 5 hours? |  | (2) |

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|  | 2.1.2 | What happened in the period during the 3rd to the 5th hour? |  | (2) |

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|  | 2.1.3 | Normal body temperature is about 37 °C. How long did it take for Thandi’s temperature to be normal again? |  | (1) |

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| 2.2 | The graph below shows the relationship between the cost of electricity and the number of units consumed which is based on a fixed amount per month plus a rate per unit used. |  |  |

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|  | 2.2.1 | What is the fixed minimum amount to be paid per month? |  | (1) |

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|  | 2.2.2 | Determine the cost of 100 units of electricity. |  | (1) |

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|  | 2.2.3 | What would be the approximate cost of 460 units of electricity? |  | (1) |

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|  | 2.2.4 | Approximately how many units were used if the bill was R22? |  | (1) |

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|  | 2.2.5 | A formula for calculating the cost can be given by C = 0,055*u* + 5, where C is the cost in rand and *u* is the number of units. Use this formula and calculate how much 500 units will cost. |  | (3) |

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|  | 2.2.6 | Use the formula C = 0,055*u* + 5 to calculate the number of units that can be bought for R60. |  | (3) |

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| **QUESTION 3** |  |  |

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| 3.1 | Four glasses are filled with water from a tap that flows at a constant rate. Match the glass with the graph that best shows the volume at a certain time. Only write down the question number together with the letter of the graph. |  |  |

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|  | time  Volume  **A**  time  Volume  **B**  time  Volume  **C**  time  Volume  **D** |  |  |

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|  | 3.1.1 |  |  | (1) |

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|  | 3.1.2 |  |  | (1) |

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|  | 3.1.3 |  |  | (1) |

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|  | 3.1.4 |  |  | (1) |

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| 3.2 | To raise money to pay for her son’s school fees, Maria decided to sell hamburgers at R9 each. |  |  |

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|  | 3.2.1 | Copy and complete the table below to show the amount collected for selling a certain number of hamburgers. |  |  |

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|  |  | |  |  |  |  |  | | --- | --- | --- | --- | --- | | Hamburgers (n) | 1 | 5 | 7 | 11 | | Amount (R) | 9 |  | 63 |  | |  | (2) |

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|  | 3.2.2 | (a) | Use the grid on the attached Annexure to draw a graph to show the amount collected for selling a certain number of hamburgers. Use the following information to assist you:   * Show the amount in Rand on the vertical axis. * Show the number of hamburgers on the horizontal axis. * Use a suitable scale on the axes. * Give a suitable title to the graph. * Use the values from the completed table to plot the points on the system of axes. |  | (4) |

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|  |  | (b) | Is the graph increasing or decreasing? |  | (1) |

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|  |  | (c) | How much will Maria collect if she sells 8 hamburgers? Use dotted lines and show with the letter B where you will read this value from the graph. |  | (3) |

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|  |  | (d) | Write down a formula to determine the amount (R) collected for selling *n* hamburgers in the form: R = … |  | (1) |

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|  |  | (e) | Maria’s expenses to buy ingredients for the hamburgers were R103. How many hamburgers must she sell before she will show a profit? |  | (1) |

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|  |  | (f) | Her son’s school fees are R200. How many hamburgers must she sell to cover her expenses as well as her son’s school fees? |  | (2) |

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| TOTAL: |  | **50** |

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| **Annexure: QUESTION 3.2.2(a)**  **Centre**:……………………………………… **Name**:………………………………….. |  |  |