

## **GENERAL EDUCATION AND TRAINING CERTIFICATE**

## **NQF LEVEL 1**

## **AET LEVEL 4 SITE-BASED ASSESSMENT**

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

**This assessment task consists of 4 pages.**

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| **INSTRUCTIONS AND INFORMATION** |  |  |

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

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| 2. | Read ALL the questions carefully. |  |  |

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| 3. | Calculators may be used. |  |  |

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| 4. | Clearly show calculations, diagrams, graphs, et cetera which you have used in determining the answers, |  |  |

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| 5. | Number the answers according to the numbering system used in this question paper. |  |  |

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| **QUESTION 1** |  |  |

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| 1.1 | The following number pattern shows the first five terms in a sequence: |  |  |

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|  | 1.1.1 | What are the values of and if the number pattern is consistent? |  | (2) |

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|  | 1.1.2 | Describe the pattern in your own words. |  | (2) |

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|  | 1.1.3 | Determine the value of the seventh term of the sequence. |  | (1) |

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|  | 1.1.4 | Determine the formula for the nth term. |  | (2) |

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|  | 1.1.5 | Calculate the value of the 100th term. |  | (3) |

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|  | 1.1.6 | Determine which term will be the first term to be less than |  | (5)  **[15]** |

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| **QUESTION 2** |  |  |

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| 2.1 | Subtract from. |  | (3) |

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| 2.2 | Factorise the following expressions completely: |  | (4) |

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| 2.3 | Solve for if: |  | (3) |

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| 2.4 | Solve the inequality below and represent the solution on a number line. |  | (4)  **[14]** |

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| **QUESTION 3** |  |  |

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| 3.1 | Body mass index (BMI) refers to the ratio of a person’s mass (in kilograms) to the square of his or her height (in metres). BMI results can be classified in this table below: |  |  |

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|  | |  |  | | --- | --- | | **BMI (kg/m2)** | **Classification** | | Lower than 20 | Underweight | | 20 to 25 | Normal weight | | 25 to 30 | Overweight | | Higher than 30 | Very overweight or obese | |  |  |

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|  | 3.1.1 | Thando weighs 95 kg and is 1,75m tall. Calculate her BMI using the formula: |  | (3) |

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|  | 3.1.2 | Classify Thando’s BMI using the table above. |  | (1) |

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|  | 3.1.3 | Determine the height of a person in (metres) whose BMI is 28 and weighs 76 kg. Round off the answer correct to TWO decimal places. |  | (4) |

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|  | 3.1.4 | Thando’s husband has BMI of 36 kg/m2 . Suggest TWO ways in which he could reduce his BMI. |  | (2) |

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| 3.2 | The equation defines a straight line graph. |  |  |

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|  | 3.2.1 | Determine the intercept and the intercept of the graph. |  | (2) |

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|  | 3.2.2 | Draw the graph of |  | (4)  **[16]** |

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| **QUESTION 4** |  |  |

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| 4.1 | Given below are the road signs |  |  |

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|  | Image result for stop sign  SIGN A | Image result for yield sign in south africa  SIGN B |  |

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|  | 4.1.1 | Write down the name of the geometric shape for SIGN A and SIGN B. |  | (2) |

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|  | 4.1.2 | Calculate the area of the shape for SIGN B if the base is and perpendicular height is . Use the formula of . |  | (2) |

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|  | 4.1.3 | How many lines of symmetry are there in a SIGN A? |  | (1)  **[5]** |

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| **TOTAL:** |  | **50** |