

## **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** | **:** | **ASSIGNMENT** |
| **TIME** | **:** | **TWO WEEKS** |
| **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 the ANSWER BOOK. |  |  |

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| 2. | Calculators may be used unless stated otherwise. |  |  |

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| 3. | Answers must be rounded to TWO decimal places unless otherwise stated. |  |  |

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| 4. | Show ALL your calculations. |  |  |

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

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| 6. | This ASSIGNMENT has to be submitted in TWO WEEKS' time. |  |  |

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| **QUESTION 1** |  |  |

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| 1.1 | Amanda's taxi service charges R5,40 per kilometre for a trip. The table below shows the cost of a trip depending on the distance travelled. |  |  |

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|  | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Distance travelled | 1 | 5 | 12 | 60 |  | |  |  |  |  |  |  | | Cost( | R5,40 |  |  |  | R675,00 | |  |  |

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|  | 1.1.1 | Copy and complete the table above. |  | (4) |

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|  | 1.1.2 | Write down the formula to represent the cost of a trip with Amanda's taxi services as distance travelled. |  | (1) |

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|  | 1.1.3 | Use the formula to work out the cost for a trip of 98. Show all your calculations. |  | (2) |

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| 1.2 | Zanele's discount taxi service charges R20,00 plus for each kilometre travelled. |  |  |

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|  | 1.2.1 | Write down the formula to represent the cost of Zanele's discount taxi service trip as dependent on the distance travelled. |  | (1) |

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|  | 1.2.2 | Use the formula to work out the cost for a trip of 60 with Zanele's discount taxi services. |  | (2) |

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|  | 1.2.3 | Will it be cheaper to take a trip with Amanda's taxi services (as discussed in QUESTION 1.1) or with Zanele's discount taxi services?  Motivate your answer. |  | (3) |

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|  | 1.2.4 | Will it be cheaper to take a 54 trip with Amanda's taxi services (as discussed in QUESTION 1.1) or with Zanele's discount taxi service?  Motivate your answer. |  | (3) |

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|  | 1.2.5 | For what distance travelled will it be cheaper to choose Amanda's taxi services over Zanele's discount taxi service? |  | (2)  **[18]** |

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| **QUESTION 2** |  |  |

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| 2.1 | A vehicle travels at an average speed of 120. The distance in is measured as the vehicle travels for different periods of time in hours. The graph below shows a distance travelled for different periods of time. |  |  |

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|  | 2.1.1 | Complete the table of values below by reading from the graph. |  |  |

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|  | 2.1.2 | What kind of a relationship is shown on the graph? |  | (1) |

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|  | 2.1.3 | Identify discrete and continuous variable. Give ONE reason for your answer. |  | (2) |

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|  | 2.1.4 | Use the graph to write down the distance travelled by the vehicle if the time taken is 2,5 hours. |  | (1) |

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|  | 2.1.5 | Use the graph to determine the time taken if the vehicle has travelled a distance of 660. |  | (1) |

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|  | 2.1.6 | Give TWO reasons why you think it is important to adhere to the speed limits in different places. |  | (2)  **[10]** |

**QUESTION 3**

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| 3.1 | The length and the width of the South African flag below are to the ratio 4 : 5. Part **A** of the flag is shown separately. AB = 30 cm, BC = 38 cm and AE = 34 cm. |  |  |

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|  | E  38cm  30cm  B  A  34cm  F  Description: C:\Users\NGOBENI TA\Desktop\2015 sba mmsc4\th[2].jpg  F  D  C |  |  |

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|  | 3.1.1 | Name any THREE geometrical shapes found in the South African flag. |  | (3) |

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|  | 3.1.2 | Calculate the perimeter of part F. |  | (6) |

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|  | 3.1.3 | Calculate the area of part F. |  | (4) |

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| 3.2 | Study the soccer ball below which is made up of 32 different regular polygons stitched together. This soccer ball is a sphere with a circumference of 68 c when fully pumped. |  |  |

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|  | 3.2.1 | Name TWO types of regular polygons that are used to make this soccer ball. |  | (2) |

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|  | 3.2.2 | What is the difference between a regular polygon and an irregular polygon? |  | (1) |

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|  | 3.2.3 | Determine the diameter of the soccer ball. Round your answer to TWO decimal places. |  | (3) |

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|  | 3.2.4 | Calculate the capacity (volume) of this soccer ball. Round your answer to TWO decimal places. |  | (3)  **[22]** |

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