

## **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** |
| **TOOL** | **:** | **PROJECT** |
| **DURATION** | **:** | **3 WEEKS** |
| **MARKS** | **:** | **50** |

**This assessment tool consists of 6 pages.**

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| **INSTRUCTIONS AND INFORMATION FOR THE TEACHER.** |  |  |

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| 1. | This investigation is based on Unit standard ID 7452 and ID 7448 can be given while the Unit standard title is taught. |  |  |

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| 2. | Activity 1 will be marked using a rubric and Activity 2 will be marked using a memorandum. |  |  |

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|  | Activity 1 |  |  |

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| A. | where |  |  |

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|  | |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | *x* | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | *y* | 0 | 1 | 2 | 3 | 4 | 5 | 6 | |  |  |

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| B. | where |  |  |

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|  | |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | *x* | 9 | 9 | 9 | 9 | 9 | 9 | 9 | | *y* | 0 | 1 | 2 | 3 | 4 | 5 | 6 | |  |  |

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| --- | --- | --- | --- |
| C. | where |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  | |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | *x* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | *y* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |  |  |

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| D. | where |  |  |

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|  | |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | *x* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | *y* | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |  |  |

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| E. | where |  |  |

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|  | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | *x* | 0 | 1 | 2 | 3 | 4 | 5 | | *y* | 6 | 6,5 | 7 | 7,5 | 8 | 8,5 | |  |  |

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| --- | --- | --- | --- |
| F. |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | *x* | 5 | 6 | 7 | 8 | 9 | 10 | | *y* | 8,5 | 8 | 7,5 | 7 | 6,5 | 6 | |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| G. |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|  | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *x* | 4 | 4 | 4 | 4 | 4 | | *y* | 0 | 1 | 2 | 3 | 4 | |  |  |

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| --- | --- | --- | --- |
| H. |  |  |  |

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|  | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *x* | 6 | 6 | 6 | 6 | 6 | | *y* | 0 | 1 | 2 | 3 | 4 | |  |  |

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| --- | --- | --- | --- |
| I. |  |  |  |

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|  | |  |  |  |  | | --- | --- | --- | --- | | *x* | 4 | 5 | 6 | | *y* | 4 | 4 | 4 | |  |  |

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| --- | --- | --- | --- |
| J. |  |  |  |

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|  | |  |  |  |  | | --- | --- | --- | --- | | *x* | 2 | 2 | 2 | | *y* | 3 | 4 | 5 | |  |  |

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| --- | --- | --- | --- |
| K. |  |  |  |

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|  | |  |  |  |  | | --- | --- | --- | --- | | *x* | 3 | 3 | 3 | | *y* | 3 | 4 | 5 | |

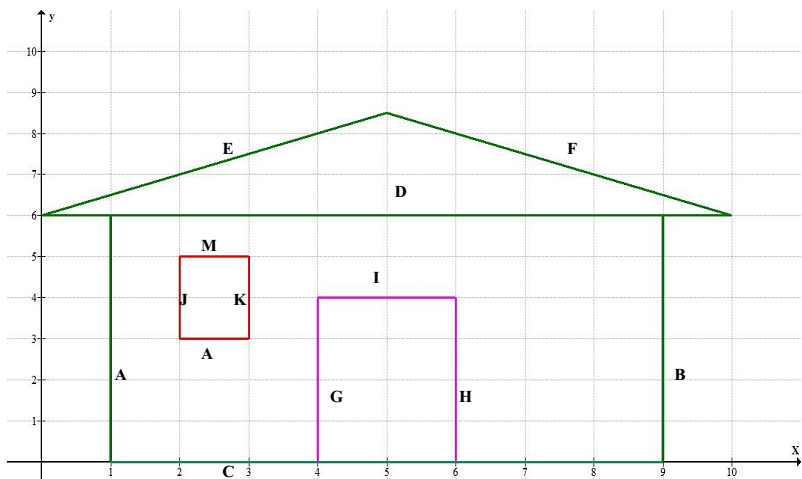
|  |  |  |  |
| --- | --- | --- | --- |
| L. |  |  |  |

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|  | |  |  |  | | --- | --- | --- | | *x* | 2 | 3 | | *y* | 3 | 3 | |  |  |

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| --- | --- | --- | --- |
| M. |  |  |  |

|  |  |  |  |  |  |  |  |  |  |
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|  | |  |  |  | | --- | --- | --- | | *x* | 2 | 3 | | *y* | 5 | 5 | |  |  |

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|  | This is the resulting picture |  |  |



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| **Criteria** | Level | | | | | Marks |
| 1 | 2 | 3 | 4 | 5 |
| **Coordinate tables** | At least one table completed correctly. | At least four tables completed correctly | At least eight tables completed correctly | At least 12 tables completed correctly | All tables completed correctly |  |
| **Plotting of graphs** | At least one graph plotted correctly | At least four graphs plotted correctly | At least eight graphs plotted correctly | At least 12 graphs plotted correctly | All graphs are plotted correctly |  |
| **Presentation and general impression** | Untidy work little effort taken with presentation. | Work in organised fashion, some effort taken | Partially presented | Work well presented, neat and complete | Excellent presentation |  |
| **Labelling of graphs** | At least one graph is labelled. | At least four graphs are labelled | At least 8 graphs are labelled | At least 12 graphs are labelled | All graphs are labelled |  |
|  |  |  |  | TOTAL | |  |

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| **ACTIVITY 2** |

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| 2.1 | See Annexure C | 2 A each pattern | (4) |

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| 2.2.1 | |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | () | 1 | 2 | 3 | 4 | 5 | 6 | 25 | | () | 1 | 4 | 9 | 16 | 25 | 36 | 625 | | 1 A for two values  1 A for two values | (2) |

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|  | 2.2.2 | B / Square numbers | 1 A Answer | (1) |

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|  | 2.2.3 |  | 2 A Answer | (2) |

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|  | 2.2.4 |  | 1 M Calculation  1 A Answer | (2) |

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|  | 2.2.5 | The number of small triangles is the square of its number pattern in the sequence. | 1 J Explanation | (1) |

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| 2.3 | 2.3.1 | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | ( | 1 | 2 | 3 | 4 | 9 | | (d) | 3 | 6 | 10 | 15 | 55 | | 2 A Correct values | (3) |

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|  | 2.3.2 |  | Substitution  Answer | (2) |

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|  | 2.3.3 | Dependent | Answer | (1) |

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|  | 2.3.4 | C / Equilateral | Answer | (1) |

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|  | 2.3.5 | If , then  If , then  There will not be a completed triangle with 261 dots. | Calculation  Reasoning | (3) |

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| 2.4 | 2.4.1 | Translation | Answer | (1) |

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|  | 2.4.2 | 4 units right and 3 units down | Answer | (1) |

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|  | 2.4.3 | It is enlarged by scale factor of 2 | A Answer | (1)  **[25]** |

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|  |  |  |  | **[50]** |

