

## **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** | **:** | **WORKSHEET** |
| **DURATION** | **:** | **2 HOURS** |
| **MARKS** | **:** | **50** |

**This assessment tool consists of 5 pages.**

**2**

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

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| This worksheet based on Unit Standard ID 7464 and ID 7452 can be given while the Unit Standard title is taught. |  |  |

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| **Name of CLC:** |
| **Name of Learner:** |

**QUESTION 1**

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| 1.1 | 1.1.1 | 3 shapes |  | (1) |

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|  | 1.1.2 | Close shapes with all straight sides are called polygons*.* |  | (1) |

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|  | 1.1.3 | All sides are straight lines  Close shapes  Two dimensional with straight sides (Any ONE) |  | (1) |

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|  | 1.1.4 | Shape 2 -Triangle ✓ = 3 sides  Shape 8 - Pentagon ✓ = 5 sides |  | (2) |

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|  | 1.1.5 | True |  | (1) |

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| 1.2 | |  |  |  | | --- | --- | --- | | **LENGTH OF LINE** | **AREA OF SQUARE** | **VOLUME OF CUBE** | |  |  |  | | 3 *cm* | = 9✓ | = 27✓ | | 4,5 *cm* | 20,25✓ | = 91,125✓ | | 25 *cm* | 625✓ | =15 625✓ | |  | (6) |
|  |  |  | **[12]** |

**QUESTION 2**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 2.1 | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | **PLATONIC SOLIDS** | | *f* | *s* | *e* | *m* | *v* | | 1. | **TETRAHEDRON** | 4 | 3 | 6 | 3 | 4 | | 2. | **HEXAHEDRON** | 6 | 4✓ | 12✓ | 3 | 8 | | 3. | **OCTAHEDRON** | 8 | 3✓ | 12 | 4✓ | 6 | | 4. | **DODECAHEDRON** | 12✓ | 5 | 30 | 3 | 20✓ | | 5. | **ICOSAHEDRON** | 20✓ | 3 | 30✓ | 5 | 12 | |  | (8) |

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| 2.2 | A square prism has square bases.  A circular prism has bases that are circles. |  | (2) |

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| 2.3 | Base area = = 2 ×3,14159 × (16,5)2 ✓  = 2 *×*3,14159 × 272,25  = 1 710,59✓  Area of the curved side = (H *×* Base perimeter)    = 2 ×3, 14159 × 16,5 × 18,3  = 1 897, 21 ✓  Total Surface Area = Base area + Area of the curved side  = = 1 710,59 *+* 1 897, 21 *cm*✓  = = 3 607,80✓  OR  Total Surface Area = +  = (+ )✓  = 2 ×3, 14 159 × 16,5 ✓ (16,5 + 18,3)✓  = 3 607,80✓ |  | (4) |

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| 2.4 | Total Surface Area = ××  = ×××] ✓  = × *×* ×] ✓  = ××] ✓  = 9 031,68✓  Volume cuboid = Area of base ×height  = ×××  = ×××  = 67,2✓ |  | (6) |
|  |  |  | **[20]** |

**QUESTION 3**

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| 3.1 | 12  12  ✓ Mark for correct labelling of the sketch  ✓ Mark for showing one angle is equal to 90  +✓  +✓  ✓  ✓  NOTE: Use any letters to label the sides |  | (6) |

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| 3.2 | A  13  5  B  C  D  In  +  ++  -✓  +  In  +  + ✓  +✓ |  | (6) |
|  |  |  | **[12]** |

**QUESTION 4**

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| 4.1  Equilateral Triangle  Square  Regular Hexagon  Regular Pentagon | ✓  ✓  ✓  Equilateral Triangle – 3 lines of symmetry  Square – 4 lines of symmetry  Regular Pentagon – 5 lines of symmetry  Regular Hexagon – 6 lines of symmetry  [One mark, if all the lines of symmetry are all drawn per shape.] |  | (4) |

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| 4.2 | Rule: Each Regular Polygon has as many lines of symmetry as it has sides✓✓ |  | (2)  **[6]** |

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