**Template for Essay Type Item**

**Subject: Mathematics**

**Domain: A-Numbers and operations**

**Grade: 8**

**Unit: 3. Square roots and cube roots**

**Type of Assessment: Formative**

**SLO: (M -08 - A -16)** find the square root of natural numbers, common fractions and decimal numbers (up to 6 -digit).

**Type of Task:** Constructed response

**Level of SLO:** Comprehension

**Task:** Find the Square root of $\sqrt{61.4656} $ **(05) Marks**

**Level of Item:** Comprehension

**Expected Response:**



7.84

61.4656

- 49

7

 **Skill observed:** pairing and calculate the perfect square.

1564

 1246

- 1184

 6256

 -6256

 0

148

**Name and Signature of Developer**

 **Uzma Nazir**

**Reviewer Comments:**

**Name and Signature of Reviewer**

**Template for Essay Type Item**

**Subject: Mathematics**

**Domain: A-Numbers and operations**

**Grade: 8**

**Unit: 3. Square roots and cube roots**

**Type of Assessment: Formative**

**SLO: (M -08 - A -16)** find the square root of natural numbers, common fractions and decimal numbers (up to 6 -digit).

**Type of Task:** Constructed response

**Level of SLO:** Comprehension

**Task:** Find the Square root of $\sqrt{12100} $ **(05) Marks**

**Level of Item:** Comprehension

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Expected Response**

|  |  |
| --- | --- |
| 11 | 12100 |
| 11 | 1100 |
| 10 | 100 |
| 10 | 10 |
|  | 1 |

 |

|  |  |
| --- | --- |
| **Skill observed**Taking square root by factorization method.Simplification of question.Answer |  **Score** 02 Marks 02 Marks 01 Mark |

 |



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**Subject: Mathematics**

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**Unit: 3. Square roots and cube roots**

**Type of Assessment: Formative**

**SLO: (M -08 - A -17)** Solve real -world word problems involving squares and square roots.

**Type of Task:** Constructed response

**Level of SLO:** Application

**Task:** Area of a wheel is 22176 cm2. Find the Diameter of the wheel. **(05) Marks**

 **Level of Item:** Application

|  |  |  |
| --- | --- | --- |
| **Expected Response** | **Skill Observed** | **Score** |
|  | FormulaCalculationAnswer | 01 Mark03 Marks01 Mark |

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**Template for Essay Type Item**

**Subject: Mathematics**

**Domain: A-Numbers and Operations**

**Grade: 8**

**Unit: 3. Square roots and cube roots**

**Type of Assessment: Summative**

**SLO: (M -08 - A -17)** Solve real -world word problems involving squares and square roots.

**Type of Task:** Constructed response

**Level of SLO:** Application

**Task:** The area of Square Park is 93025 m2. If you complete  round, of the square park, how much distance you travelled? **(05) Marks**

**Level of Item:** Application

|  |  |  |
| --- | --- | --- |
| **Expected Response** | **Skill Observed** | **Score** |
|  | FormulaCalculationAnswer | 01 Mark03 Marks01 Mark |

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**Template for Essay Type Item**

**Subject: Mathematics**

**Domain: A-Numbers and operations**

**Grade: 8**

**Unit: 3. Square roots and cube roots**

**Type of Assessment: Formative**

**SLO: (M -08 - A -18)** Recognize perfect cubes and find: -cubes of up to 2-digit numbers - cube roots of up to 5 -digit numbers which are perfect cubes.

**Type of Task:** Constructed response

**Level of SLO:** Comprehension

**Task:** Find cube root of $\sqrt[3]{1728} by using prime factorization. \left(05\right) Marks $

**Level of Item:** Comprehension

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Expected Response**

|  |  |
| --- | --- |
| 2 | 1728 |
| 2 | 864 |
| 2 | 432 |
| 2 | 216 |
| 2 | 108 |
| 2 | 54 |
| 3 | 27 |
| 3 | 9 |
| 3 | 3 |
|  | 1 |

 |

|  |  |
| --- | --- |
| **Skill observed**Prime factorization and grouping.  |  **Score** 05 Marks  |

 |

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 **Uzma Nazir**

**Reviewer Comments:**

**Name and Signature of Reviewer**

**Template for Multiple Choice Item**

**Subject: Mathematics**

**Domain: A-Numbers and Operations**

**Grade: 8**

**Unit: 3. Square roots and cube roots**

**Type of Assessment: Formative**

**SLO: (M -08 - A -18)** Recognize perfect cubes and find: -cubes of up to 2-digit numbers - cube roots of up to 5 -digit numbers which are perfect cubes.

**Type of Task:** MCQ

**Level of SLO:** Knowledge

**Task:** The cube of 23 will be?

 (A) 92 (B) 529 (C) 12167 (D) 69 **(01) Mark**

 **Level of Item:** Knowledge

|  |  |  |
| --- | --- | --- |
| **Expected Response** | **Skill Observed** | **Score** |
| Option (C) is correct. | 233=23x23x23=12167 |  01 Mark |

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 **Uzma Nazir**

**Reviewer Comments:**

**Name and Signature of Reviewer**

**Template for Essay Type Item**

**Subject: Mathematics**

**Domain: A-Numbers and Operations**

**Grade: 8**

**Unit: 3. Square roots and cube roots**

**Type of Assessment: Formative**

**SLO: (M -08 - A -19)** Solve real -world word problems involving cubes and cube roots.

**Type of Task:** Constructed response

**Level of SLO:** Application

**Task:** The side length of cubic room is 21 cm. Find the volume of that room?

 **(05) Marks**

**Level of Item:** Application

|  |  |  |
| --- | --- | --- |
| **Expected Response** | **Skill Observed** | **Score** |
|  | FormulaCalculationAnswer | 01 Mark03 Marks01 Mark |

**Name and Signature of Developer**

 **Uzma Nazir**

**Reviewer Comments:**

**Name and Signature of Reviewer**