**Template for Essay Type Item**

**Subject: Mathematics**

**Domain:** A-Numbers and Operations

**Grade: VI**

**Unit 3: Ratio, Rate and Proportion**

**Type of Assessment: Summative**

[SLO: M -06 - A -11] Express one quantity as a percentage of another, compare two quantities by percentage and increase or decrease a quantity by a given percentage.

Type of Task: Extended response

Level of SLO: Comprehension

Task: Aslam ate th part of cake and Hina ate th part of the cake. Who ate more?

Maximum Marks: 5

Level of Item: Comprehension

**Expected Response:** **Skill Observed Score**

Cake eaten by Aslam = 

Percentage of cake eaten by Aslam

= 

Cake eaten by Hina = 

Percentage of cake eaten by Aslam

= 

Therefore, Hina ate more cake.

Conversion of fraction into percentage 02

Conversion of fraction into percentage 02

Writing result 01

**Name and Signature of Developer**

1. Dr Khalid Mahmood
2. Mr. Sardar Habib

**Reviewer Comments: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Name and Signature of Reviewer**

**Template for Essay Type Item**

**Subject: Mathematics**

**Domain:** A-Numbers and Operations

**Grade: VI**

**Unit 3: Ratio, Rate and Proportion**

**Type of Assessment: Summative**

[SLO: M -06 - A -11] Express one quantity as a percentage of another, compare two quantities by percentage and increase or decrease a quantity by a given percentage.

Type of Task: Extended response

Level of SLO: Comprehension

Task: Salary of Dr Muhammad Akram is 60000 rupees. His salary is increased by 30%. Find his new salary.

Maximum Marks: 5

Level of Item: Comprehension

**Expected Response:** **Skill Observed Score**

Salary of Dr M. Akram = Rs.60000

Increase in the salary = 30% of Rs.60000

= 

= Rs.18000

New salary of Dr M. Akram

= Rs.(60000 + 18000)

= Rs.78000

Finding increase in the salary 03

Finding new salary 02

**Name and Signature of Developer**

1. Dr Khalid Mahmood
2. Mr. Sardar Habib

**Reviewer Comments: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Name and Signature of Reviewer**

**Template for Multiple Choice Item**

**Subject: Mathematics**

**Domain:** A-Numbers and Operations

**Grade: VI**

**Unit: Ratio, rate and percentage**

**Type of Assessment: Formative**

Express one quantity as a percentage of another, compare two quantities by percentage and increase or decrease a quantity by a given percentage.

Type of Task: MCQ

Level of SLO: Knowledge

Maximum Marks (01)

Task: Alia solved 12 questions and Asif solved 20 questions. Express 12 as a percentage of 20.

**Options**

**A**) 80%

B) 70%

C) 60%

D) 50%

**Answer: C**

**Reason for Choosing Distracter:** All distracters are expressed in percentage which are nearer to key.

**Name and Signature of Developer**

1. Dr Khalid Mahmood
2. Mr. Sardar Habib

**Reviewer Comments: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Name and Signature of Reviewer**

**Template for Essay Type Item**

**Subject: Mathematics**

**Domain:** A-Numbers and Operations

**Grade: VI**

**Unit 3: Ratio, Rate and Proportion**

**Type of Assessment: Formative**

[SLO: M -06 - A -13] Explain rate as a comparison of two quantities where one quantity is 1.

Type of Task: Extended response

Level of SLO: Comprehension

Task: Cost of 20 chocolate bars is Rs.600. What is the cost of 2.5 dozen bars?

Maximum Marks: 5

Level of Item: Comprehension

**Expected Response:** **Skill Observed Score**

2.5 dozen bars = 30 bars

Cost of 20 chocolate bars = Rs.600

Cost of 1 chocolate bar = Rs. 

Cost of 30 chocolate bars = Rs.

= Rs.900

Conversion of dozens 01

Finding cost of 1 bar 02

Finding cost of 30 bars 02

**Name and Signature of Developer**

1. Dr Khalid Mahmood
2. Mr. Sardar Habib

**Reviewer Comments: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Name and Signature of Reviewer**

**Template for Essay Type Item**

**Subject: Mathematics**

**Domain:** A-Numbers and Operations

**Grade: VI**

**Unit 3: Ratio, Rate and Proportion**

**Type of Assessment: Formative**

[SLO: M -06 - A -12] Solve real-world word problems involving ratio, rate and percentage.

Type of Task: Extended response

Level of SLO: Application

Task: Divide prize money of Rs.360 among Ahmed, Abid and Naseem such that Naseem gets two times and Abid gets 3 times of the share got by Ahmed.

Maximum Marks: 5

Level of Item: Application

**Expected Response:** **Skill Observed Score**

Total amount = Rs.360

Ahmed : Naseeem : Abid = 1 : 2 : 3

Sum of ratios = 1 + 2 + 3 = 6

Share of Ahmed = Rs.60

Share of Naseem = Rs.120

Share of Abid = Rs.180

Findingratio among shares 01

Finding sum of ratios 01

Finding share of each 03

**Name and Signature of Developer**

1. Dr Khalid Mahmood
2. Mr. Sardar Habib

**Reviewer Comments: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Name and Signature of Reviewer**

**Template for Multiple Choice Item**

**Subject: Mathematics**

**Domain:** A-Numbers and Operations

**Grade: VI**

**Unit: Ratio, rate and percentage**

**Type of Assessment: Formative**

[SLO: M -06 - A -14] Calculate ratio of two numbers (up to 3 -digit) and simplify ratios.

Type of Task: MCQ

Level of SLO: Knowledge

Maximum Marks (01)

Task: Ratio between 2km and 800m is:

**Options**

**A**) 1 : 400

B) 2 : 5

C) 5 : 2

D) 2 : 7

**Answer: B**

**Reason for Choosing Distracter:** One option is given without conversion of units, one option is reverse of true answer and one is closely related.

**Name and Signature of Developer**

1. Dr Khalid Mahmood
2. Mr. Sardar Habib

**Reviewer Comments: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Name and Signature of Reviewer**

**Template for Essay Type Item**

**Subject: Mathematics**

**Domain:** A-Numbers and Operations

**Grade: VI**

**Unit 3: Ratio, Rate and Proportion**

**Type of Assessment: Formative**

[SLO: M -06 - A -16] Solve real -world word problems involving ratio and rate.

Type of Task: Extended response

Level of SLO: Application

Task: Three angles A, B and C of a triangle ABC are such that A : B = 1 : 3 and B : C = 1 : 2. Find the angles of triangle.

Maximum Marks: 5

Level of Item: Application

**Expected Response:** **Skill Observed Score**

Sum of angles of triangle ABC = 180o

A : B : C

1 : 3

1 : 2

1 : 3 : 6

Sum of ratios = 1 + 3 + 6 = 10

Angle A = 18o

Angle B = 54o

Angle C = 108o

Findingratio among shares 01

Finding sum of ratios 01

Finding share of each 03

**Name and Signature of Developer**

1. Dr Khalid Mahmood
2. Mr. Sardar Habib

**Reviewer Comments: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Name and Signature of Reviewer**

**Template for Multiple Choice Item**

**Subject: Mathematics**

**Domain:** A-Numbers and Operations

**Grade: VI**

**Unit: Ratio, rate and percentage**

**Type of Assessment: Formative**

[SLO: M -06 - A -17] Recognize and calculate squares of up to 2 -digit numbers.

Type of Task: MCQ

Level of SLO: Knowledge

Maximum Marks (01)

Task: Square of 91 consists of:

**Options**

**A**) 2 digits

B) 3 digits

C) 4 digits

D) 5 digits

**Answer: C**

**Reason for Choosing Distracter:** Correctoption is closely related with distracters.

**Name and Signature of Developer**

1. Dr Khalid Mahmood
2. Mr. Sardar Habib

**Reviewer Comments: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Name and Signature of Reviewer**