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Class 8 Mathematics – Worksheet 3

Chapter 1: Rational Numbers

Topic: Properties of Rational Numbers

Section A: Basic Concepts (1 Mark Each)

- 1. State whether the following are true or false:
 - a) The sum of two rational numbers is always rational.
 - b) Rational numbers are not closed under subtraction.
- 2. Write the multiplicative inverse of the following:
 - a) 7/9
 - b) -11/13
- 3. Find the reciprocal of:
 - a) -8/3
 - b) 5
- 4. Identify the identity element for:

a) Addition

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b) Multiplication

Section B: Operations (2 Marks Each)

1. Verify the closure property of rational numbers under addition for the following:

a) -5/6 and 7/8

b) 2/3 and -1/4

2. Verify the distributive property for:

a) 3/5 × (2/7 + 4/9)

b) -2/3 × (1/6 - 5/8)

3. Test the associative property for:

a) (1/4 + 3/5) + 7/9

b) (-2/7 × 5/6) × 4/9

Section C: Word Problems (3 Marks Each)

1. If the product of two rational numbers is 15/28 and one of them is 5/7, find the other.

2. A rectangular garden measures 3/4 km by 5/6 km. Find its area.

3. The sum of two rational numbers is 11/15. One of them is 4/5. Find the other.

4. Distribute -9/16 among four people equally. How much does each person get?

Section D: Higher-Order Thinking Skills (HOTS) (5 Marks Each)

1. Show that the sum of any three rational numbers is associative.

2. A triangle has sides of lengths 2/5 km, 3/4 km, and 5/6 km. Find its perimeter.

3. Prove that the product of any rational number and its reciprocal is 1, with examples.

• End of Worksheet

hete And Attempt all sections carefully.

