INTERNATIONAL INDIAN SCHOOL BURAIDAH

Worksheet for the Academic Year 2025-26

CLASS: VIII SUBJECT: MATHEMATICS DATE: 01 -05-2025

LESSON: 1 RATIONAL NUMBERS

1. The rational number that does not have a reciprocal is --------
2. The rational numbers that are equal to its reciprocals are --------
3. The rational number that is equal to its negative is ------
4. The product of two rational numbers is always a ----------
5. Find the reciprocal of the following rational numbers:
   a) $\frac{-3}{4}$ b) $\frac{-6}{-13}$ c) $\frac{7}{11}$ d) $\frac{5}{-9}$
6. Find the additive inverse of the following rational numbers:
   a) $\frac{-5}{6}$ b) $\frac{2}{9}$ c) $\frac{1}{-4}$ d) $\frac{-3}{-5}$
7. What should be added to $\frac{-3}{4}$ to get (-1)
8. What should be subtracted from $\frac{-3}{5}$ to get (-2)
9. Name the property used in each of the following:
   a) $(\frac{-7}{4}) \times (\frac{-3}{4}) = (\frac{-3}{4}) \times (\frac{-7}{4})$
   b) $(\frac{-3}{4}) \times (\frac{3}{2} + \frac{1}{4}) = (\frac{-3}{4} \times \frac{3}{2}) + (\frac{-3}{4} \times \frac{1}{4})$
   c) $\frac{3}{2} + 0 = \frac{3}{2}$
   d) $\frac{-5}{7} + (\frac{-1}{6} + \frac{3}{4}) = (\frac{-5}{7} + \frac{-1}{6}) + \frac{3}{4}$
10. Simplify each of the following by a suitable property:
    a) $[\frac{1}{2} \times \frac{1}{4}] + [\frac{1}{2} \times 6]$

    b) $[\frac{1}{5} \times \frac{2}{15}] - [\frac{1}{5} \times \frac{2}{5}]$

    c) $\frac{-2}{3} \times \frac{3}{5} + \frac{5}{2} - \frac{3}{5} \times \frac{1}{6}$

    d) $\frac{2}{5} \times (\frac{-3}{7}) - \frac{1}{6} \times \frac{3}{2} + \frac{1}{14} \times \frac{2}{5}$

11. Simplify:
    a) $\frac{16}{39} + \frac{9}{-26}$
    b) $(\frac{-3}{2} \times \frac{4}{5}) \div (\frac{9}{5} \times \frac{-10}{3}) - (\frac{1}{2} \times \frac{3}{4})$
    c) $\frac{5}{3} + \frac{11}{2} + (\frac{-9}{4}) + (\frac{-8}{3}) + (\frac{-7}{2})$
    d) $(\frac{2}{7}) \times [\frac{7}{16} - \frac{21}{4}]$

12. Verify a + b = b+ a, if a = $\frac{-3}{16}$ and b= $\frac{1}{9}$
13. Verify a×(b+ c) = (a × b) + (a × c), where a = $\frac{-1}{5}$, b = $\frac{2}{15}$, c = $\frac{3}{10}$
14. Verify the property a×(b ×c) = (a × b) × c, where a = $\frac{-2}{7}$, b = $\frac{-5}{6}$, c = $\frac{1}{4}$
15. The sum of two rational numbers is ($\frac{-4}{5}$), If one of them is ($\frac{-1}{20}$) Find the other?
16. The product of two rational numbers is ($\frac{-28}{75}$). If one of the numbers is $\frac{14}{25}$. Find the other number?

Answers:

1. 0 2. 1 & -1 3. 0 4. Rational number

5. a) $\frac{-4}{3}$ b) $\frac{-1}{-6}$ c) $\frac{11}{7}$ d) $\frac{-9}{5}$

6. a) $\frac{5}{6}$ b) $\frac{-2}{9}$ c) $\frac{1}{4}$ d) $\frac{-3}{5}$

7. $\frac{-1}{4}$ 8. $\frac{7}{5}$

9. a) Commutative property of multiplication

   b) Distributive property of multiplication over addition

   c) Additive identity

   d) Associative property of addition

10. a) $\frac{25}{8}$ b) $\frac{-4}{75}$ c) 2 d) $\frac{-11}{28}$

11. a) $\frac{5}{78}$ b) $\frac{-23}{40}$ c) $\frac{-5}{4}$ d) $\frac{-11}{8}$

15. $\frac{-1}{4}$ 16. $\frac{-2}{3}$

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