**STD 8 Maths** **Total Marks : 30**

**Rational Numbers DPP-6**

*** Choose The Right Answer From The Given Options.[1 Marks Each]** **[10]**

1. A number which can be written in the form, $\frac{p}{q}$ where p and q are integers and _____ is called a rational number.

   (A) q = 0 (B) q ≠ 0 (C) q = 1 (D) None of these

2. a(b + c) = ab + ac is called:

   (A) Commutative law (B) Associative law (C) Distributive law (D) None of these

3. The additive inverse of $\frac{2}{3}$ is:

   (A) $-\frac{2}{3}$ (B) $\frac{2}{3}$ (C) $-\frac{3}{2}$ (D) $1$

4. Tick $(\checkmark)$ the correct answer the following:

   Additive inverse of $\frac{-5}{9}$ is:

   (A) $\frac{-9}{5}$ (B) $0$ (C) $\frac{5}{9}$ (D) $\frac{9}{5}$

5. Which of the following numbers is its own reciprocal:

   (A) 10 (B) Zero (C) $\frac{1}{5}$ (D) 1

6. Which of the following statements is false?

   (A) Natural numbers are closed under subtraction.

   (B) Whole numbers are not closed under subtraction.

   (C) Integers are closed under subtraction.

   (D) Rational numbers are closed under subtraction.

7. The rational number which is equal to negative is:

   (A) 0 (B) -1 (C) 1 (D) $\frac{1}{2}$

8. One (1) is:
   a. The identity for addition of rational numbers.
   b. The identity for subtraction of rational numbers.
   c. The identity for multiplication of rational numbers.
   d. The identity for division of rational numbers.

9. Multiplicative inverse of a negative rational number is:
   a. A positive rational number.
   b. A negative rational number.
   c. 0
   d. 1

10. Mark $(\checkmark)$ against the correct answer of the following:

What should be subtracted from $\frac{-2}{3}$ to get $\frac{3}{4}$?

a. $\frac{-11}{12}$

b. $\frac{-13}{12}$

c. $\frac{-5}{4}$

d. $\frac{-17}{12}$

*** Questions With Calculation.[2 Marks Each]** **[8]**

11. Verify the property x × (y + z) = x × y + x × z of rational numbers by taking.

    $x = \frac{-1}{2}$, $y = \frac{3}{4}$, $z = \frac{1}{4}$

12. Simplify:

    $1 + \frac{-4}{5}$

13. $\left(\frac{25}{5} \times \frac{2}{5}\right) - \left(\frac{3}{5} \times \frac{-10}{9}\right)$

14. Fill in blanks:

    $\frac{-7}{9} + \ldots\ldots\ldots = 3$

*** Questions With Calculation.[3 Marks Each]** **[12]**

15. Verify the property x × (y + z) = x × y + x × z of rational numbers by taking.

    $x = \frac{-1}{5}$, $y = \frac{2}{15}$, $z = \frac{-3}{10}$

16. The cost of $2\frac{1}{3}$m metres of cloth is Rs. $75\frac{1}{4}$ Find the cost of cloth per metre.

17. $\left(\frac{8}{5} \times \frac{-3}{2}\right) + \left(\frac{-3}{10} \times \frac{11}{16}\right)$

18. (i) If $x = 6, y = \frac{1}{9}, z = 0$ (ii) If $x = \frac{4}{5}, y = \frac{-9}{10}, z = \frac{43}{15}$

    Then, verify the following properties and name them

    (a) $x \times (y + z) = x \times y + x \times z$

    (b) $x \times (y \times z) = (x \times y) \times z$

    (c) $x \times y = y \times x$

    (d) $x \times (y - z) = x \times y - x \times z$

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