STD 8 Maths **Total Marks : 30**

Rational numbers DPP-1

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

1. Find $\frac{-3}{5} \times \frac{7}{9} \times \frac{21}{13} \times \frac{-2}{3}$

   (A) $\frac{99}{193}$ (B) $\frac{98}{195}$ (C) $\frac{98}{190}$ (D) $\frac{90}{140}$

2. Tick (✓) the correct answer the following:

   $\left(\frac{-9}{16} \times \frac{8}{15}\right) = ?$

   (A) $\frac{-3}{10}$ (B) $\frac{-4}{15}$ (C) $\frac{-9}{25}$ (D) $\frac{-2}{5}$

3. Tick (✓) the correct answer the following:

   $\left(\frac{2}{3} + \frac{-4}{5} + \frac{7}{15} + \frac{-11}{20}\right) = ?$

   (A) $\frac{-1}{5}$ (B) $\frac{-4}{15}$ (C) $\frac{-13}{60}$ (D) $\frac{-7}{30}$

4. The reciprocal of $\frac{-3}{8} \times \left(\frac{-7}{13}\right)$ is:

   (A) $\frac{104}{21}$ (B) $\frac{-104}{21}$ (C) $\frac{21}{104}$ (D) $\frac{-21}{104}$

5. Which of the following expressions shows that rational numbers are associative under multiplication:

   (A) $\frac{2}{3} \times \left(\frac{-6}{7} \times \frac{3}{5}\right) = \left(\frac{2}{3} \times \frac{-6}{7}\right) \times \frac{3}{5}$ (B) $\frac{2}{3} \times \left(\frac{-6}{7} \times \frac{3}{5}\right) = \frac{2}{3} \times \left(\frac{3}{5} \times \frac{-6}{7}\right)$

   (C) $\frac{2}{3} \times \left(\frac{-6}{7} \times \frac{3}{5}\right) = \left(\frac{3}{5} \times \frac{2}{3}\right) \times \frac{-6}{7}$ (D) $\left(\frac{2}{3} \times \frac{-6}{7}\right) \times \frac{3}{5} = \left(\frac{-6}{7} \times \frac{2}{3}\right) \times \frac{3}{5}$

6. Which of the following is a rational number between $\frac{1}{4}$ and $\frac{1}{3}$?

   (A) $\frac{7}{24}$ (B) $\frac{8}{15}$ (C) $\frac{13}{48}$ (D) Both (a) and (c)

7. Multiplicative inverse of a negative rational number is

   (A) 0 (B) -1

   (C) a negative rational number (D) a positive rational number

8. The multiplicative inverse of $\frac{-3}{8} \times \left(\frac{-24}{13}\right)$ is

   (A) $\frac{9}{13}$ (B) $\frac{-9}{13}$ (C) $\frac{-13}{9}$ (D) $\frac{13}{9}$

9. Which of the following number does not have multiplicative inverse?

   (A) 1 (B) -1 (C) 0 (D) None of these

10. If $\frac{a}{b}$ is the multiplicative inverse of a number x, then multiplicative inverse of $\frac{a}{b}$ is

    (A) $\frac{1}{x}$ (B) x (C) $\frac{ax}{b}$ (D) $\frac{xb}{a}$

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

11. Find $\frac{3}{7}+\left(\frac{-6}{11}\right)+\left(\frac{-8}{21}\right)+\left(\frac{5}{22}\right)$

12. What should be added to $\left(\frac{2}{3}+\frac{3}{5}\right)$ to get $\frac{-12}{15}$?

13. The sum of two numbers is $\frac{-4}{3}$. If one of the numbers is -5, find the other.

14. Find ten rational number between $\frac{-2}{5}$ and $\frac{1}{2}$.

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

15. Simplify:

$\left(\frac{3}{11}\times\frac{5}{6}\right)-\left(\frac{9}{12}\times\frac{4}{3}\right)+\left(\frac{5}{13}\times\frac{6}{15}\right)$

16. Simplify each of the following by using suitable property. Also, name the properties.

(i) $\left[\frac{1}{2}\times\frac{1}{4}\right]+\left[\frac{1}{2}\times 6\right]$

(ii) $\left[\frac{1}{5}\times\frac{2}{15}\right]-\left[\frac{1}{5}\times\frac{2}{5}\right]$

(iii) $\frac{-3}{5}\times\left[\frac{3}{7}+\left(\frac{-5}{6}\right)\right]$

17. State which property is in the following and verify it.

(i) $\frac{19}{50}\times\left(\frac{50}{38}\times\frac{5}{19}\right)=\left(\frac{19}{50}\times\frac{50}{38}\right)\times\frac{5}{19}$

(ii) $\frac{-6}{5}+\left\{\frac{2}{15}+\left(\frac{-9}{25}\right)\right\}=\left\{\left(\frac{-6}{5}\right)+\frac{2}{15}\right\}+\left(\frac{-9}{25}\right)$

(iii) $\frac{6}{19}\times\left\{\frac{4}{15}-\frac{2}{5}\right\}=\frac{6}{19}\times\frac{4}{15}-\frac{6}{19}\times\frac{2}{5}$

18. Find the following expression using the appropriate property.

(i) $0\div\left(\frac{2}{3}\times\frac{9}{16}\right)$

(ii) $\frac{16}{9}\times\left(\frac{-14}{17}\right)\times\left(\frac{-27}{4}\right)\times\frac{51}{49}$

(iii) $\frac{4}{9}\times\frac{19}{20}-\frac{4}{9}\times\frac{1}{20}$

(iv) $\frac{5}{2}\times\frac{1}{10}+\frac{2}{7}-\frac{9}{4}\times\frac{1}{10}$

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