

Ch-1 Rational Numbers

11 What should be added to $\frac{1}{3} + \frac{1}{4} + \frac{1}{6}$ to get 1?

12 Find the sum by suitable arrangement:

$$\frac{3}{5} + (-\frac{2}{3}) + (-\frac{11}{5}) + \frac{4}{3}$$

13 Verify the following

$$i) -2 + [\frac{3}{5} + (-\frac{1}{6})] = [-2 + \frac{3}{5}] + (-\frac{1}{6})$$

$$ii) \frac{5}{9} \times (\frac{3}{26} + \frac{-2}{13}) = (\frac{-5}{9} \times \frac{3}{26}) + (\frac{-5}{9} \times \frac{-2}{13})$$

14(i) Divide the sum of $\frac{2}{7}$ and $\frac{3}{5}$ by their product.

(ii) Divide the sum of $-\frac{9}{7}$ and $\frac{7}{3}$ by the difference of

$$\frac{3}{5} \text{ and } \frac{2}{7}$$

15 By what number should we divide $-\frac{63}{15}$ to get -3?

16 Ramesh cut a $21\frac{1}{4}$ long rope into pieces of $4\frac{1}{4}$ m length each. How many pieces of the rope did he get?

17 Name the property for each of the following:

$$a) 4 \times \frac{1}{4} = 1 \quad (b) -\frac{8}{10} \times 1 = -\frac{8}{10} \quad (c) -\frac{9}{5} + 0 = -\frac{9}{5}$$

$$d) 3 \times (\frac{1}{3} - \frac{2}{5}) = 3 \times \frac{1}{3} - 3 \times \frac{2}{5}$$

$$18 \text{ Simplify } \Rightarrow \frac{2}{5} \times (-\frac{3}{7}) - \frac{1}{6} \times \frac{3}{2} + \frac{1}{14} \times \frac{2}{5}$$

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

19 Insert six rational numbers between $-\frac{3}{2}$ and $\frac{5}{3}$

20 Area of a rectangular field is $10\frac{1}{12}$ sq. m. If the length of the field is $2\frac{3}{4}$ m, find its breadth.

21 If $P = -\frac{3}{2}$, $Q = \frac{4}{5}$, $R = -\frac{7}{12}$ then verify that

$$P \times (Q + R) = (P \times Q) + (P \times R)$$

Q12. What should be subtracted from $\frac{5}{7}$ to get $\frac{1}{21}$? \leftarrow

Q13. Arrange the following rational numbers in the descending order (show the calculations)

$$-\frac{17}{11}, \frac{7}{-5}, -\frac{11}{9}, \frac{13}{-8}$$

Q14. Multiply $\frac{11}{13}$ with the multiplicative inverse of $\frac{22}{39}$

Q15. Multiply the additive inverse of $-\frac{3}{7}$ with the reciprocal of $\frac{6}{49}$

ANSWERS

1) $\frac{1}{4}$

2) $-\frac{14}{15}$

3) (i) LHS = RHS $(-\frac{47}{30})$ (ii) LHS = RHS $(\frac{5}{234})$

4) (i) $\frac{31}{6}$ (ii) $\frac{10}{3}$

5) $\frac{7}{5}$

6) 5 pieces

7) (a) Multiplicative inverse (b) Multiplicative identity (c) Additive identity
(d) Distributive Property

8) (i) $-\frac{11}{28}$ (ii) 2

9) $[-\frac{8}{6}, -\frac{7}{6}, -\frac{6}{6}, -\frac{5}{6}, -\frac{4}{6}, -\frac{3}{6}]$

10) $\frac{11}{3} m$ or $3\frac{2}{3} m$

11) LHS = RHS $(-\frac{13}{40})$

12) $\frac{2}{3}$

13) $-\frac{11}{9}, \frac{7}{-5}, -\frac{17}{11}, \frac{13}{-8}$

14) $\frac{3}{2}$

15) $\frac{7}{2}$

1) M.C.Q's (Choose the correct option)

Q1 Which of the following forms a pair of equivalent rational numbers?

- (a) $\frac{14}{32}$ & $\frac{21}{35}$ (b) $\frac{-15}{21}$ and $\frac{20}{-28}$ (c) $\frac{-5}{7}$ & $\frac{-20}{26}$ (d) $\frac{6}{-16}$ and $\frac{-9}{36}$

Q2 Which of the following rational numbers is in the standard form?

- (a) $\frac{14}{27}$ (b) $\frac{-49}{91}$ (c) $\frac{-13}{52}$ (d) $\frac{-27}{105}$

Q3 Which of the following rational no. is the greatest

- (a) $\frac{3}{-7}$ (b) $\frac{-5}{14}$ (c) $\frac{-16}{56}$ (d) $\frac{-13}{28}$

Q4 Product of rational no. $-\frac{2}{5}$ and its additive inverse is

- (a) 0 (b) 1 (c) $-\frac{4}{25}$ (d) $-\frac{5}{2}$

Q5 Additive inverse of $\frac{-2}{-5}$ is

- (a) $\frac{2}{5}$ (b) $\frac{5}{2}$ (c) $\frac{2}{-5}$ (d) $-\frac{5}{2}$

3) Objective type Questions

(i) $-(3-7) + (-6-8) = \underline{\hspace{2cm}}$

(ii) The negative of $-(-13)$ is $\underline{\hspace{2cm}}$

(iii) If $\frac{4}{9} \div x = -\frac{10}{3}$ then $x = \underline{\hspace{2cm}}$

(iv) The multiplicative inverse of $\frac{-3}{8} \times \frac{-5}{2} = \underline{\hspace{2cm}}$

(v) The negative of a negative rational no. is the $\underline{\hspace{2cm}}$

A M.C.Q's

- 1) (b) (4) (c)
2) (a) (5) (c)
3) (c)

ANSWERS

B Objective type questions

- (i) -10 (ii) -13
(iii) $-\frac{2}{15}$ (iv) $\frac{16}{15}$
(v) Positive rational no.