CHAPTER-2 (OPERATIONS ON RATIONAL NUMBERS)

WORKSHEET(BASIC)

1 MARK QUESTIONS

Choose the correct answer:

1. The additive inverse of $\frac{-7}{8}$ is _____ .
   (a) $\frac{-7}{8}$ (b)$\frac{7}{8}$(c)$\frac{8}{7}$(d) $\frac{-8}{7}$

2. Identity element for multiplication of rational numbers is _____.
   (a)1   (b)0   (c)-1   (d) does not exist

Fill in the blanks.

3. $\frac{9}{4}\times$ _____=1

4. Sum of a number and its additive inverse is equal to _____.

Answer the followings

5. Add $\frac{4}{9} + \frac{7}{4}$.

6. What is the multiplicative inverse of $(-2\frac{1}{3})$.

2 MARKS QUESTIONS

Short answer type question–I

7. Simplify $\frac{5}{4} - \frac{7}{6} - (-\frac{2}{3})$

8. Verify commutative property under addition i.ex+y = y+xfor $x = \frac{1}{2}$ & $y = \frac{3}{5}$.

3 MARKS QUESTIONS

Short answer type question–II

9. Simplify $(\frac{6}{55} \times \frac{-22}{9}) - (\frac{26}{125} \times \frac{-10}{39})$.

10. Find the cost of $3\frac{1}{3}$ meters of cloth at Rs $40\frac{1}{2}$ per metre.

4 MARKS QUESTIONS

Long answer type question

11. Verify that x×(y× z) = (x×y) × zfor x = $\frac{1}{2}$, y = $\frac{2}{3}$ and z = $\frac{5}{7}$.

1 MARKS QUESTIONS

Choose the correct options:

1. Identify element of subtraction of rational numbers is _____ .
   (a) 1   (b) 0   (c) -1   (d) does not exist

2. $\frac{9}{8} \times \frac{22}{3} =$ _____ .
   (a) $\frac{22}{24}$ (b) $\frac{31}{11}$ (c) $\frac{33}{4}$ (d) None of these

Fill in the blanks.

3. $-2\frac{1}{9} - 6 =$ _____ .

4. Multiplicative inverse $-1\frac{1}{7}$ is _____ .

Answer the followings

5. Simplify $\frac{7}{3} \times (\frac{9}{8} + 3)$

6. Fill in the blanks
   $\frac{4}{7} \times \frac{2}{3} - \frac{4}{7} \times \frac{5}{6} = \frac{4}{7} \times ($ _____ $-$ _____ $)$.

2 MARKS QUESTIONS

Short answer type question–I

7. The product of two rational numbers is -9. If one of the no. is -12, find other.

8. Find x if $\frac{9}{8} + x = \frac{-3}{2}$

3 MARKS QUESTIONS

Short answer type question–II

9. Subtract $6\frac{2}{3}$ from the sum of $\frac{-3}{7}$ and 2.

10. With what number should we multiply $\frac{-36}{35}$, so that the product be $\frac{-6}{5}$?

11. How many pieces, each of length $3\frac{3}{4}$ m can be cut from a rope of length 30m?

12. A car is moving at an average speed of $54\frac{4}{5}$ km/h .how much distance will it cover in $7\frac{1}{2}$ hours?

4 MARKS QUESTIONS

Long answer type question

13. By taking $x = \frac{-5}{3}$, $y = \frac{2}{7}$ and $z = \frac{-1}{4}$ verify that:- $x \div (y - z) \neq (x \div y) - (x \div z)$

1 MARKS QUESTIONS

Choose the correct options:

1. $\frac{9}{8} \div (\underline{\hspace{1cm}}) = \frac{-3}{2}$

    (a)$\frac{-2}{3}$ (b)$\frac{-3}{2}$ (c)$\frac{2}{3}$ (d)$\frac{3}{2}$

2. $\frac{8}{3} - 1\frac{5}{7} = \underline{\hspace{4cm}}$.

    (a)$\frac{21}{22}$ (b)$\frac{-22}{21}$ (c)$\frac{22}{21}$ (d) none of these

Fill in the blanks.

3. $\left(\frac{-4}{9} + \frac{-5}{12}\right) \times \frac{5}{7} = \left(\frac{-4}{9} \times \frac{5}{7}\right) + \left(\frac{-5}{12} \times \frac{5}{7}\right)$ which property is used here_____.

4. $\frac{-3}{14}$ x ($\underline{\hspace{2cm}}$) $= \frac{5}{12}$

Answer the followings

5. Find reciprocal of $-5\frac{1}{3}$.

6. find x if $\frac{-7}{15} \div \left(\frac{50}{3}\right)^{-1} = x$

2 MARKS QUESTIONS

Short answer type question–I

7. find the value of $1 + \frac{1}{1+\frac{1}{7}}$

8..By taking $x = \frac{3}{4}$ and $y = \frac{-5}{6}$, verify that $x \div y \neq y \div x$.

9.If 24 pairs of trouser of equal size can be prepared with 54m of cloth, what length of cloth is required for each pair of trouser ?

3 MARKS QUESTIONS

Short answer type question–II

10.Find three rational numbers between $\frac{1}{2}$ and $\frac{-1}{2}$.

11.Find reciprocal of $\frac{-2}{3} \times \frac{-5}{7} + \frac{2}{9} \div \frac{1}{3} \times \frac{6}{7}$.

12. Divide the sum of $\frac{65}{12}$ and $\frac{8}{3}$ by their difference.

13. By what rational number should $\frac{-8}{39}$ be multiplied to obtain $\frac{5}{26}$?

4 MARKS QUESTIONS

Long answer type question

14. The cost of $2\frac{1}{2}$ m of cloth is Rs. $78\frac{3}{4}$, then find out the cost of cloth of $3\frac{1}{3}$ m ?

15. A drum of kerosene oil is $\frac{3}{4}$ full. When 15liter of oil is drawn from it, it is $\frac{7}{12}$ full. Find the capacity of the drum.

16. Find the product of:

$$\left(1 - \frac{1}{2}\right)\left(1 - \frac{1}{3}\right)\left(1 - \frac{1}{4}\right)...\left(1 - \frac{1}{10}\right)$$