Operations on Rational Numbers Ex 5.4 Q6

Answer :

Let x be the number by which we multiply $\frac{-15}{28}$ to get the product $\frac{-5}{7}$.
Then, we have

$x \times \frac{-15}{28} = \frac{-5}{7}$

$\Rightarrow x = \frac{-5}{7} \times \frac{28}{-15} = \frac{-5}{7} \times \frac{7 \times 4}{-5 \times 3} = \frac{4}{3}$

Operations on Rational Numbers Ex 5.4 Q7

Answer :

Let x be the number required. Then, we have

$x \times \frac{-8}{13} = 24$

$\Rightarrow x = 24 \times \frac{-13}{8} = -13 \times 3 = -39$

Operations on Rational Numbers Ex 5.4 Q8

Answer :

Let x be the number by which we should multiply $\frac{-3}{4}$ to get $\frac{2}{3}$.

Then, we have

$\frac{-3}{4} \times x = \frac{2}{3} \Rightarrow x = \frac{2}{3} \times \frac{4}{-3} = \frac{-8}{9}$

Operations on Rational Numbers Ex 5.4 Q9

Answer :

(i) $x = \frac{2}{3}$, $y = \frac{3}{2}$

Then, $(x+y) = \frac{2}{3} + \frac{3}{2} = \frac{2 \times 2}{3 \times 2} + \frac{3 \times 3}{2 \times 3} = \frac{4}{6} + \frac{9}{6} = \frac{13}{6}$

$\left(x - y\right) = \frac{2}{3} - \frac{3}{2} = \frac{4}{6} - \frac{9}{6} = \frac{-5}{6}$

Then, $\left(x + y\right) \div \left(x - y\right) = \frac{13}{6} \div \frac{-5}{6} = \frac{13}{6} \times \frac{6}{-5} = \frac{-13}{5}$.

(ii) $x = \frac{2}{5}$, $y = \frac{1}{2}$

Then, $(x+y) = \frac{2}{5} + \frac{1}{2} = \frac{2 \times 2}{5 \times 2} + \frac{1 \times 5}{2 \times 5} = \frac{4}{10} + \frac{5}{10} = \frac{9}{10}$

$\left(x - y\right) = \frac{2}{5} - \frac{1}{2} = \frac{4}{10} - \frac{5}{10} = \frac{-1}{10}$

Then, $\left(x + y\right) \div \left(x - y\right) = \frac{9}{10} \div \frac{-1}{10} = -9$

(iii) $x = \frac{5}{4}$, $y = \frac{-1}{3}$

Then, $(x+y) = \frac{5}{4} + \frac{-1}{3} = \frac{5 \times 3}{4 \times 3} + \frac{-1 \times 4}{3 \times 4} = \frac{15}{12} + \frac{-4}{12} = \frac{11}{12}$

$\left(x - y\right) = \frac{5}{4} - \frac{-1}{3} = \frac{5}{4} + \frac{1}{3} = \frac{19}{12}$

Then, $\left(x + y\right) \div \left(x - y\right) = \frac{11}{12} \div \frac{19}{12} = \frac{11}{12} \times \frac{12}{19} = \frac{11}{19}$.

Operations on Rational Numbers Ex 5.4 Q10

Answer :

The cost of $7\frac{2}{3} = \frac{23}{3}$ metres of rope = Rs. $12\frac{3}{4} = \frac{51}{4}$.

Then, the cost of 1 metre of rope = Rs. $\frac{51}{4} \div \frac{23}{3} = \frac{51}{4} \times \frac{3}{23} = \frac{153}{92} = $ Rs. $1\frac{61}{92}$.

********** END *********