

Operations on Rational Numbers Ex 5.4 Q1

#### Answer

(i) 
$$1 \div \frac{1}{2} = 1 \times \frac{2}{1} = 2$$

(ii) 
$$5 \div \frac{-5}{7} = 5 \times \frac{7}{-5} = -7$$

(iii) 
$$\frac{-3}{4} \div \frac{9}{-16} = \frac{-3}{4} \times \frac{-16}{9} = \frac{-3}{4} \times \frac{-4 \times 4}{3 \times 3} = \frac{4}{3}$$

(iv) 
$$\frac{-7}{8} \div \frac{-21}{16} = \frac{-7}{8} \times \frac{-16}{21} = \frac{-7}{8} \times \frac{-8 \times 2}{7 \times 3} = \frac{2}{3}$$

$$\left(\mathbf{v}\right) \quad \frac{7}{-4} \div \frac{63}{64} = \frac{7}{-4} \times \frac{64}{63} = \frac{-7}{4} \times \frac{4 \times 16}{7 \times 9} = \frac{-16}{9}$$

(vi) 
$$0 \div \frac{-7}{5} = 0 \times \frac{-7}{5} = 0$$

(vii) 
$$\frac{-3}{4} \div -6 = \frac{-3}{4} \times \frac{-1}{6} = \frac{-3}{4} \times \frac{-1}{2 \times 3} = \frac{1}{8}$$

(viii) 
$$\frac{2}{3} \div \frac{-7}{12} = \frac{2}{3} \times \frac{-12}{7} = \frac{2}{3} \times \frac{-4 \times 3}{7} = \frac{-8}{7}$$

Operations on Rational Numbers Ex 5.4 Q2

### Answer:

$$(i)\frac{2}{5} \div \frac{26}{15} = \frac{2}{5} \times \frac{15}{26} = \frac{2}{5} \times \frac{3 \times 5}{2 \times 13} = \frac{3}{13}$$

$$(ii)\frac{10}{3} \div \frac{-35}{12} = \frac{10}{3} \times \frac{-12}{35} = \frac{2 \times 5}{3} \times \frac{-3 \times 4}{5 \times 7} = \frac{-8}{7}$$

$$(iii) - 6 \div \frac{-8}{17} = -6 \times \frac{-17}{8} = -2 \times 3 \times \frac{-17}{2 \times 4} = \frac{51}{4}$$

$$(\text{iv})\frac{40}{98} \div -20 = \frac{40}{98} \times \frac{1}{-20} = \frac{2 \times 20}{2 \times 49} \times \frac{-1}{20} = \frac{-1}{49}$$

Operations on Rational Numbers Ex 5.4 Q3

## Answer:

Let the first rational number = x.

Second number = -10

Their product = 15

Then, we have

$$x \times -10 = 15$$

$$\Rightarrow x = 15 \times \frac{1}{-10} = 5 \times 3 \times \frac{-1}{2 \times 5} = \frac{-3}{2}$$

Operations on Rational Numbers Ex 5.4 Q4

# Answer:

Let the first rational number = x

Second number 
$$=\frac{-4}{15}$$
  
Their product  $=\frac{-8}{9}$ 

Then, we have

$$x \times \frac{-4}{15} = \frac{-8}{9}$$
  
 $\Rightarrow x = \frac{-8}{9} \times \frac{-15}{4} = \frac{-2 \times 4}{3 \times 3} \times \frac{-3 \times 5}{4} = \frac{10}{3}$ 

Operations on Rational Numbers Ex 5.4 Q5

### Answer:

Let x be the number by which we should multiply  $\frac{-1}{6}$  to get  $\frac{-23}{9}$ .

Then, according to the question, we have

$$\frac{-1}{6} \times \mathbf{x} = \frac{-23}{9}$$

$$\Rightarrow \mathbf{x} = \frac{-23}{9} \times \left(-6\right) = \frac{46}{3}$$

\*\*\*\*\*\*\*\* END \*\*\*\*\*\*\*