

### Rational Numbers Ex 1.6 Q4

#### Answer:

$$\left(\mathbf{i}\right) \frac{3}{5} \times \left(\frac{35}{24} + \frac{10}{1}\right) = \frac{3}{5} \times \frac{35}{24} + \frac{3}{5} \times \frac{10}{1} = \frac{7}{8} + \frac{6}{1} = \frac{7+48}{8} = \frac{55}{8}$$

(ii) 
$$\frac{-5}{4} \times \left(\frac{8}{5} + \frac{16}{5}\right) = \frac{-5}{4} \times \frac{8}{5} + \frac{-5}{4} \times \frac{16}{5} = \frac{-2}{1} + \frac{-4}{1} = -6$$

(iii) 
$$\frac{2}{7} \times \left(\frac{7}{16} - \frac{21}{4}\right) = \frac{2}{7} \times \frac{7}{16} - \frac{2}{7} \times \frac{21}{4} = \frac{1}{8} - \frac{3}{2} = \frac{1-12}{8} = \frac{-11}{8}$$

(iv) 
$$\frac{3}{4} \times (\frac{8}{9} - 40) = \frac{3}{4} \times \frac{8}{9} - \frac{3}{4} \times 40 = \frac{2}{3} - 30 = \frac{2-90}{3} = \frac{-88}{3}$$

# Rational Numbers Ex 1.6 Q.5

### Answer:

- (i) Multiplicative inverse (reciprocal) of  $9 = \frac{1}{9}$
- (ii) Multiplicative inverse (reciprocal) of  $-7 = \frac{-1}{7}$
- (iii) Multiplicative inverse (reciprocal) of  $\frac{12}{5} = \frac{5}{12}$
- (iv) Multiplicative inverse (reciprocal) of  $\frac{-7}{9} = \frac{-9}{7}$
- (v) Multiplicative inverse (reciprocal) of  $\frac{-3}{-5} = \frac{-5}{-3}$  or  $\frac{5}{3}$
- (vi) Multiplicative inverse (reciprocal) of  $\frac{2}{3}\times\frac{9}{4}~=~\frac{3}{2}\times\frac{4}{9}=\frac{2}{3}$
- (vii) Multiplicative inverse (reciprocal) of  $\frac{-5}{8}\times\frac{16}{15}~=~\frac{8}{-5}\times\frac{15}{16}=\frac{-3}{2}$
- (viii) Multiplicative inverse (reciprocal) of  $-2 \times \frac{-3}{5} = \frac{1}{-2} \times \frac{5}{-3} = \frac{5}{6}$
- (ix) Multiplicative inverse (reciprocal) of  $-1 = \frac{1}{-1} = -1$
- (x) Multiplicative inverse (reciprocal) of  $\frac{0}{3} = \frac{3}{0} = \text{undefined}$
- (ix) Multiplicative inverse (reciprocal) of  $1 = \frac{1}{1} = 1$

Rational Numbers Ex 1.6 Q6

## Answer:

- (i) Commutative property
- (ii) Commutative property
- (iii) Distributivity of multiplication over addition
- (iv) Associativity of multiplication
- (v) Existence of identity for multiplication
- (vi) Existence of multiplicative inverse
- (vii) Multiplication by 0
- (viii) Distributive property

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