

**RD SHARMA**

**Solutions**

**Class 8 Maths**

**Chapter 1**

**Ex 1.5**

**Q-1. Multiply:**

(i)  $\frac{7}{11}$  by  $\frac{5}{4}$

(ii)  $\frac{5}{7}$  by  $\frac{-3}{4}$

(iii)  $\frac{-2}{9}$  by  $\frac{5}{11}$

(iv)  $\frac{-3}{17}$  by  $\frac{-5}{-4}$

(v)  $\frac{9}{-7}$  by  $\frac{36}{-11}$

(vi)  $\frac{-11}{13}$  by  $\frac{-21}{7}$

(vii)  $\frac{-3}{5}$  by  $\frac{-4}{7}$

(viii)  $\frac{-15}{11}$  by 7

**Solution:**

(i)  $\frac{7}{11} \times \frac{5}{4} = \frac{7 \times 5}{11 \times 4} = \frac{35}{44}$

(ii)  $\frac{5}{7} \times \frac{-3}{4} = \frac{5 \times -3}{7 \times 4} = \frac{-15}{28}$

(iii)  $\frac{-2}{9} \times \frac{5}{11} = \frac{-2 \times 5}{11 \times 9} = \frac{-10}{99}$

(iv)  $\frac{-3}{17} \times \frac{-5}{-4} = \frac{-3 \times -5}{17 \times -4} = \frac{15}{-68} = \frac{15}{-68}$

(v)  $\frac{9}{-7} \times \frac{36}{-11} = \frac{9 \times 36}{-7 \times -11} = \frac{324}{77}$

(vi)  $\frac{-11}{13} \times \frac{-21}{7} = \frac{-11 \times -21}{13 \times 7} = \frac{33}{13}$

(vii)  $\frac{-3}{5} \times \frac{-4}{7} = \frac{-3 \times -4}{5 \times 7} = \frac{12}{35}$

(viii)  $\frac{-15}{11} \times 7 = \frac{-15 \times 7}{11} = \frac{-105}{11}$

**Q-2. Multiply:**

(i)  $\frac{-5}{17}$  by  $\frac{51}{-60}$

(ii)  $\frac{-6}{11}$  by  $\frac{-55}{36}$

$$\text{(iii)} \frac{-8}{25} \text{ by } \frac{-5}{16}$$

$$\text{(iv)} \frac{6}{7} \text{ by } \frac{-49}{36}$$

$$\text{(v)} \frac{8}{-9} \text{ by } \frac{-7}{-16}$$

$$\text{(vi)} \frac{-8}{9} \text{ by } \frac{3}{64}$$

**Solution:**

$$\text{(i)} \frac{-5}{17} \times \frac{51}{-60} = \frac{-5 \times 51}{17 \times -60} = \frac{1}{4}$$

$$\text{(ii)} \frac{-6}{11} \times \frac{-55}{36} = \frac{-6 \times -55}{11 \times 36} = \frac{5}{6}$$

$$\text{(iii)} \frac{-8}{25} \times \frac{-5}{16} = \frac{-8 \times -5}{25 \times 16} = \frac{1}{10}$$

$$\text{(iv)} \frac{6}{7} \times \frac{-49}{36} = \frac{6 \times -49}{7 \times 36} = \frac{-7}{6}$$

$$\text{(v)} \frac{8}{-9} \times \frac{-7}{-16} = \frac{8 \times -7}{-9 \times -16} = \frac{-7}{18}$$

$$\text{(vi)} \frac{-8}{9} \times \frac{3}{64} = \frac{-8 \times 3}{9 \times 64} = \frac{-1}{24}$$

**Q-3. Simplify each of the following and express the result as a rational number in standard form:**

$$\text{(i)} \frac{-16}{21} \times \frac{14}{5}$$

$$\text{(ii)} \frac{7}{6} \times \frac{-3}{28}$$

$$\text{(iii)} \frac{-19}{36} \times 16$$

$$\text{(iv)} \frac{-13}{9} \times \frac{27}{-26}$$

$$\text{(v)} \frac{-9}{16} \times \frac{-64}{-27}$$

$$\text{(vi)} \frac{-50}{7} \times \frac{14}{3}$$

$$\text{(vii)} \frac{-11}{9} \times \frac{-81}{-88}$$

$$\text{(viii)} \frac{-5}{9} \times \frac{72}{-25}$$

**Solution:**

$$(i) \frac{-16}{21} \times \frac{14}{5} = \frac{-2 \times 2 \times 2 \times 2}{3 \times 7} \times \frac{2 \times 7}{5} = \frac{-32}{15}$$

$$(ii) \frac{7}{6} \times \frac{-3}{28} = \frac{7}{2 \times 3} \times \frac{-3}{2 \times 2 \times 7} = \frac{-1}{8}$$

$$(iii) \frac{-19}{36} \times 16 = \frac{-19}{2 \times 2 \times 3 \times 3} \times 2 \times 2 \times 2 \times 2 = \frac{-76}{9}$$

$$(iv) \frac{-13}{9} \times \frac{27}{-26} = \frac{-13}{3 \times 3} \times \frac{3 \times 3 \times 3}{-2 \times 13} = \frac{-3}{2}$$

$$(v) \frac{-9}{16} \times \frac{-64}{27} = \frac{-9}{16} \times \frac{-4 \times 16}{-3 \times 9} = \frac{-4}{3}$$

$$(vi) \frac{-50}{7} \times \frac{14}{3} = \frac{-50}{7} \times \frac{2 \times 7}{3} = \frac{-100}{3}$$

$$(vii) \frac{-11}{9} \times \frac{-81}{-88} = \frac{-11}{3 \times 3} \times \frac{-9 \times 9}{-8 \times 11} = \frac{-9}{8}$$

$$(viii) \frac{-5}{9} \times \frac{72}{-25} = \frac{-5}{3 \times 3} \times \frac{8 \times 9}{-5 \times 5} = \frac{8}{5}$$

**Q-4. Simplify:**

$$(i) \left(\frac{25}{8} \times \frac{2}{5}\right) - \left(\frac{3}{5} \times \frac{-10}{9}\right)$$

$$(ii) \left(\frac{1}{2} \times \frac{1}{4}\right) + \left(\frac{1}{2} \times 6\right)$$

$$(iii) \left(-5 \times \frac{2}{15}\right) - \left(-6 \times \frac{2}{9}\right)$$

$$(iv) \left(\frac{-9}{4} \times \frac{5}{3}\right) + \left(\frac{13}{2} \times \frac{5}{6}\right)$$

$$(v) \left(\frac{-4}{3} \times \frac{12}{-5}\right) + \left(\frac{3}{7} \times \frac{21}{15}\right)$$

$$(vi) \left(\frac{13}{5} \times \frac{8}{3}\right) - \left(\frac{-5}{2} \times \frac{11}{3}\right)$$

$$(vii) \left(\frac{13}{7} \times \frac{11}{26}\right) - \left(\frac{-4}{3} \times \frac{5}{6}\right)$$

$$(viii) \left(\frac{8}{5} \times \frac{-3}{2}\right) + \left(\frac{-3}{10} \times \frac{-11}{16}\right)$$

**Solution:**

$$(i) \left(\frac{25}{8} \times \frac{2}{5}\right) - \left(\frac{3}{5} \times \frac{-10}{9}\right)$$

$$\begin{aligned} &= \frac{5}{4} - \frac{-2}{3} \\ &= \frac{5 \times 3 + 2 \times 4}{12} = \frac{23}{12} \end{aligned}$$

$$\begin{aligned} \text{(ii)} \quad & \left(\frac{1}{2} \times \frac{1}{4}\right) + \left(\frac{1}{2} \times 6\right) \\ &= \frac{1}{8} + 3 \\ &= \frac{1+3 \times 8}{8} = \frac{25}{8} \end{aligned}$$

$$\begin{aligned} \text{(iii)} \quad & \left(-5 \times \frac{2}{15}\right) - \left(-6 \times \frac{2}{9}\right) \\ &= \frac{-2}{3} - \frac{-4}{3} \\ &= \frac{-2+4}{3} = \frac{2}{3} \end{aligned}$$

$$\begin{aligned} \text{(iv)} \quad & \left(\frac{-9}{4} \times \frac{5}{3}\right) + \left(\frac{13}{2} \times \frac{5}{6}\right) \\ &= \frac{-3 \times 5}{4} + \frac{13 \times 5}{12} \\ &= \frac{-15}{4} + \frac{65}{12} \\ &= \frac{-15 \times 3 + 65}{12} \\ &= \frac{20}{12} = \frac{5}{3} \end{aligned}$$

$$\begin{aligned} \text{(v)} \quad & \left(\frac{-4}{3} \times \frac{12}{-5}\right) + \left(\frac{3}{7} \times \frac{21}{15}\right) \\ &= \frac{4 \times 4}{5} + \frac{1 \times 3}{5} \\ &= \frac{16}{5} + \frac{3}{5} \\ &= \frac{16+3}{5} = \frac{19}{5} \end{aligned}$$

$$\begin{aligned} \text{(vi)} \quad & \left(\frac{13}{5} \times \frac{8}{3}\right) - \left(\frac{-5}{2} \times \frac{11}{3}\right) \\ &= \frac{13 \times 8}{15} - \frac{-5 \times 11}{6} \\ &= \frac{104}{15} - \frac{-55}{6} \\ &= \frac{104 \times 2 + 55 \times 5}{30} = \frac{483}{30} \end{aligned}$$

$$\begin{aligned} \text{(vii)} \quad & \left(\frac{13}{7} \times \frac{11}{26}\right) - \left(\frac{-4}{3} \times \frac{5}{6}\right) \\ &= \frac{1 \times 11}{7 \times 2} - \frac{-2 \times 5}{3 \times 3} \\ &= \frac{11}{14} - \frac{-10}{9} \\ &= \frac{11 \times 9 + 10 \times 14}{126} = \frac{239}{126} \end{aligned}$$

$$\begin{aligned} \text{(viii)} \quad & \left(\frac{8}{5} \times \frac{-3}{2}\right) + \left(\frac{-3}{10} \times \frac{11}{16}\right) \\ &= \frac{4 \times (-3)}{5} + \frac{-3 \times 11}{10 \times 16} \\ &= \frac{-12}{5} + \frac{-33}{160} \end{aligned}$$

$$= \frac{-12 \times 32 - 33}{160} = \frac{-417}{160}$$

**Q-5. Simplify:**

$$(i) \left(\frac{3}{2} \times \frac{1}{6}\right) + \left(\frac{5}{3} \times \frac{7}{2}\right) - \left(\frac{13}{8} \times \frac{4}{3}\right)$$

$$(ii) \left(\frac{1}{4} \times \frac{2}{7}\right) - \left(\frac{5}{14} \times \frac{-2}{3}\right) + \left(\frac{3}{7} \times \frac{9}{2}\right)$$

$$(iii) \left(\frac{13}{9} \times \frac{-15}{2}\right) + \left(\frac{7}{3} \times \frac{8}{5}\right) + \left(\frac{3}{5} \times \frac{1}{2}\right)$$

$$(iv) \left(\frac{3}{11} \times \frac{5}{6}\right) - \left(\frac{9}{12} \times \frac{4}{3}\right) + \left(\frac{5}{13} \times \frac{6}{15}\right)$$

**Solution:**

$$(i) \left(\frac{3}{2} \times \frac{1}{6}\right) + \left(\frac{5}{3} \times \frac{7}{2}\right) - \left(\frac{13}{8} \times \frac{4}{3}\right)$$

$$= \frac{1}{4} + \frac{35}{6} - \frac{13}{6}$$

$$= \frac{1 \times 3 + 35 \times 2 - 13 \times 6}{12}$$

$$= \frac{3 + 70 - 26}{12} = \frac{47}{12}$$

$$(ii) \left(\frac{1}{4} \times \frac{2}{7}\right) - \left(\frac{5}{14} \times \frac{-2}{3}\right) + \left(\frac{3}{7} \times \frac{9}{2}\right)$$

$$= \frac{1}{14} - \frac{-5}{21} + \frac{27}{14}$$

$$= \frac{1 \times 3 + 5 \times 2 + 27 \times 3}{21}$$

$$= \frac{3 + 10 + 81}{21} = \frac{94}{21}$$

$$(iii) \left(\frac{13}{9} \times \frac{-15}{2}\right) + \left(\frac{7}{3} \times \frac{8}{5}\right) + \left(\frac{3}{5} \times \frac{1}{2}\right)$$

$$= \frac{-13 \times 5}{6} + \frac{7 \times 8}{15} + \frac{3}{10}$$

$$= \frac{-65}{6} + \frac{56}{15} + \frac{3}{10}$$

$$= \frac{-65 \times 5 + 56 \times 2 + 3 \times 3}{30}$$

$$= \frac{-204}{30} = \frac{-34}{5}$$

$$(iv) \left(\frac{3}{11} \times \frac{5}{6}\right) - \left(\frac{9}{12} \times \frac{4}{3}\right) + \left(\frac{5}{13} \times \frac{6}{15}\right)$$

$$= \frac{5}{22} - 1 + \frac{2}{13}$$

$$= \frac{5 \times 13 - 286 + 2 \times 22}{286}$$

$$= \frac{65 - 286 + 44}{286} = \frac{-177}{286}$$