

RD SHARMA

Solutions

Class 7 Maths

Chapter 5

Ex 5.3

Q1. Multiply:

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

$$\begin{aligned} & \frac{7}{11} \times \frac{5}{4} \\ &= \frac{35}{44} \end{aligned}$$

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

$$\begin{aligned} & \frac{5}{7} \times \frac{-3}{4} \\ &= \frac{-15}{28} \end{aligned}$$

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

$$\begin{aligned} & \frac{-2}{9} \times \frac{5}{11} \\ &= \frac{-10}{99} \end{aligned}$$

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

$$\begin{aligned} & \frac{-3}{17} \times \frac{-5}{-4} \\ &= \frac{15}{-68} \\ &= \frac{-15}{68} \end{aligned}$$

Q2. Multiply:

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

$$\begin{aligned} & \frac{-5}{17} \times \frac{51}{-60} \\ &= \frac{-255}{-1020} \\ &= \frac{255}{1020} \\ &= \frac{1}{4} \end{aligned}$$

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

$$\begin{aligned} & \frac{-6}{11} \times \frac{51}{-60} \\ &= \frac{-255}{-1020} \\ &= \frac{255}{1020} \\ &= \frac{1}{4} \end{aligned}$$

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

$$\begin{aligned} & \frac{-8}{25} \times \frac{-5}{16} \\ &= \frac{40}{400} \\ &= \frac{1}{10} \end{aligned}$$

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

$$\begin{aligned} & \frac{6}{7} \times \frac{-49}{36} \\ &= \frac{-7}{6} \end{aligned}$$

Q3. Simplify each of the following and express the result as a rational number in standard form:

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

$$\begin{aligned} & \frac{-16}{21} \times \frac{14}{5} \\ &= \frac{-224}{105} \\ &= \frac{-32}{15} \end{aligned}$$

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

$$\begin{aligned} & \frac{7}{6} \times \frac{-3}{28} \\ &= \frac{-1}{8} \end{aligned}$$

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

$$\begin{aligned} & \frac{-19}{36} \times 16 \\ &= \frac{-304}{36} \\ &= \frac{-76}{9} \end{aligned}$$

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

$$\begin{aligned} & \frac{-13}{9} \times \frac{27}{-26} \\ &= \frac{3}{2} \end{aligned}$$

Q4. Simplify:

$$(i) (-5 \times \frac{2}{15}) - (-6 \times \frac{2}{9})$$

$$\begin{aligned} & (-5 \times \frac{2}{15}) - (-6 \times \frac{2}{9}) \\ &= \frac{-10}{15} - (\frac{-12}{9}) \\ &= \frac{-10 \times 3}{15 \times 3} - (\frac{-12 \times 5}{9 \times 5}) \\ &= \frac{-30}{45} - (\frac{-60}{45}) \\ &= \frac{-30+60}{45} \\ &= \frac{30}{45} \\ &= \frac{2}{3} \end{aligned}$$

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

$$\begin{aligned} & (\frac{-9}{4} \times \frac{5}{3}) + (\frac{13}{2} \times \frac{5}{6}) \\ &= (\frac{-3}{4} \times 5) + (\frac{65}{12}) \\ &= (\frac{-15}{4}) + (\frac{65}{12}) \\ &= \frac{-15 \times 3}{4 \times 3} + \frac{65}{12} \\ &= \frac{-45}{12} + \frac{65}{12} \\ &= \frac{-45+65}{12} \\ &= \frac{20}{12} \\ &= \frac{10}{6} \\ &= \frac{5}{3} \end{aligned}$$

Q5. Simplify:

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

$$\begin{aligned}
& \left(\frac{13}{9} \times \frac{-15}{2}\right) + \left(\frac{7}{3} \times \frac{8}{5}\right) + \left(\frac{3}{5} \times \frac{1}{2}\right) \\
&= \left(\frac{13}{3} \times \frac{-5}{2}\right) + \left(\frac{56}{15}\right) + \left(\frac{3}{10}\right) \\
&= \left(\frac{-65}{6}\right) + \left(\frac{56}{15}\right) + \left(\frac{3}{10}\right) \\
&= \left(\frac{-65 \times 5}{6 \times 5}\right) + \left(\frac{56 \times 2}{15 \times 2}\right) + \left(\frac{3 \times 3}{10 \times 3}\right) \\
&= \left(\frac{-325}{30}\right) + \left(\frac{112}{30}\right) + \left(\frac{9}{30}\right) \\
&= \left(\frac{-325}{30}\right) + \left(\frac{112}{30}\right) + \left(\frac{9}{30}\right) \\
&= \left(\frac{-204}{30}\right) \\
&= \left(\frac{-34}{5}\right)
\end{aligned}$$

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

$$\begin{aligned}
& \left(\frac{3}{11} \times \frac{5}{6}\right) - \left(\frac{9}{12} \times \frac{4}{3}\right) + \left(\frac{5}{13} \times \frac{6}{15}\right) \\
&= \left(\frac{1}{11} \times \frac{5}{2}\right) - \left(\frac{3}{3} \times \frac{1}{1}\right) + \left(\frac{1}{13} \times \frac{6}{3}\right) \\
&= \left(\frac{1}{11} \times \frac{5}{2}\right) - \left(\frac{3}{3} \times \frac{1}{1}\right) + \left(\frac{1}{13} \times \frac{2}{1}\right) \\
&= \left(\frac{5}{22}\right) - (1) + \left(\frac{2}{13}\right) \\
&= \left(\frac{5 \times 13}{22 \times 13}\right) - \left(\frac{1 \times 286}{1 \times 286}\right) + \left(\frac{2 \times 22}{13 \times 22}\right) \\
&= \left(\frac{65}{286}\right) - \left(\frac{286}{286}\right) + \left(\frac{44}{286}\right) \\
&= \left(\frac{65 - 286 + 44}{286}\right) \\
&= \left(\frac{-177}{286}\right)
\end{aligned}$$