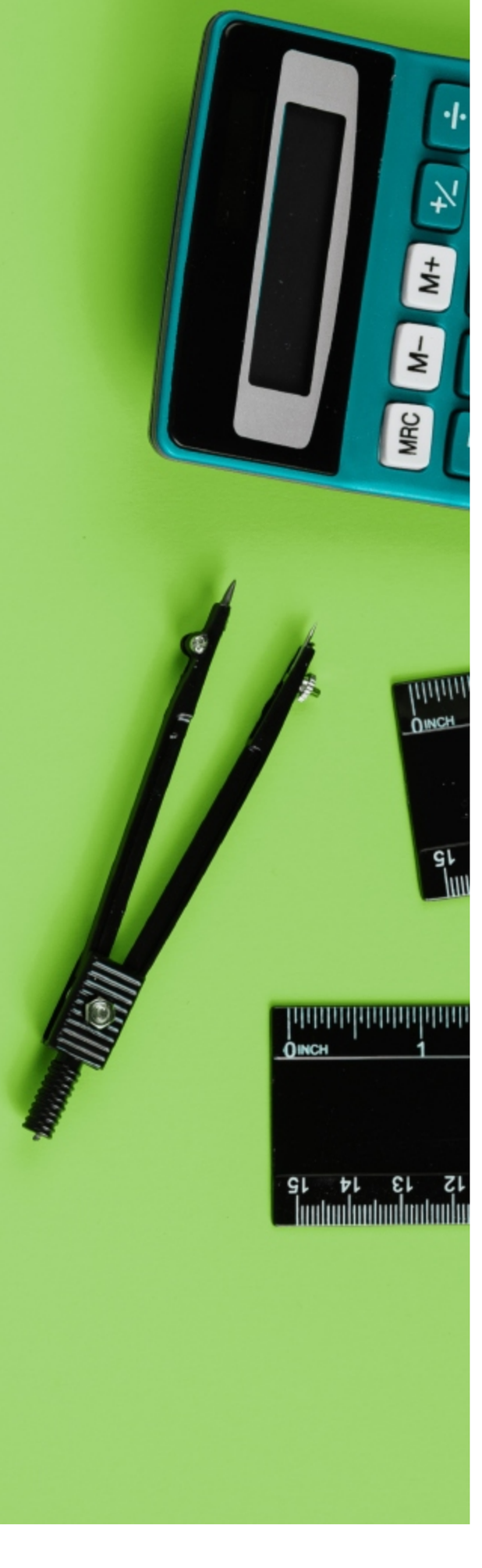
RD Sharma Solutions

Class 7

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Exercise 5.3

Q.1 Multiply

(i) $\frac{7}{11}$ by $\frac{5}{4}$ (ii) $\frac{5}{7}$ by $\left(-\frac{3}{4}\right)$ (iii) $\frac{(-2)}{9}$ by $\frac{5}{11}$

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

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

(iv) $\frac{-3}{17} \times \frac{-5}{-4} = \frac{-3 \times -5}{17 \times -4} = \frac{15}{-68} \times \frac{-1}{-1} = \frac{-15}{68}$

Q.2 Multiply

(i) $\frac{-5}{17}$ by $\frac{51}{-60}$ (ii) $\frac{-6}{11}$ by $\frac{-55}{36}$ (iii) $\frac{-8}{25}$ by $\frac{-5}{16}$

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

Solution (i) $\frac{-\overset{1}{5}}{\underset{1}{17}} \times \frac{\overset{3}{51}}{\underset{12}{-60}} = \frac{-3}{-12} = \frac{3}{12} = \frac{1}{4}$

(ii) $\frac{-\overset{1}{6}}{\underset{1}{11}} \times \frac{\overset{5}{-55}}{\underset{6}{36}} = \frac{5}{6}$

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(iii) $\frac{-\cancel{8}^{1}}{\cancel{25}_{5}} \times \frac{-\cancel{5}^{1}}{\cancel{16}_{2}} = \frac{1}{10}$.

(iv) $\frac{\cancel{6}^{1}}{\cancel{7}_{1}} \times \frac{-\cancel{49}^{7}}{\cancel{36}_{6}} = \frac{-7}{6}$

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

(i) $\frac{-16}{21} \times \frac{14}{5}$ (ii) $\frac{7}{6} \times \frac{-3}{28}$ (iii) $-\frac{19}{36} \times 16$

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

Solution: (i) $\frac{-16}{\cancel{21}_{3}} \times \frac{\cancel{14}^{2}}{5} = \frac{-32}{15}$

(ii) $\frac{\cancel{7}^{1}}{\cancel{6}_{2}} \times \frac{-\cancel{3}^{1}}{\cancel{28}_{4}} = \frac{-1}{8}$

(iii) $-\frac{19}{\cancel{36}_{9}} \times \cancel{16}^{4} = \frac{-19 \times 4}{9 \times 1}$

$= \frac{-76}{9}$

(iv) $\frac{-\cancel{13}^{1}}{\cancel{9}_{1}} \times \frac{\cancel{27}^{3}}{\cancel{26}_{2}} = \frac{-3}{-2} = \frac{3}{2}$

Q4 Simplify:

(i) $\left(-5 \times \frac{2}{15}\right) - \left(-6 \times \frac{2}{9}\right)$ (ii) $\left(\frac{-9}{4} \times \frac{5}{3}\right) + \left(\frac{13}{2} \times \frac{5}{6}\right)$

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Solution (i) $\left(-5 \times \frac{2}{15_3}\right) - \left(-6^2 \times \frac{2}{9_3}\right)$

$= -\frac{2}{3} - \left(\frac{-4}{3}\right) = -\frac{2}{3} + \frac{4}{3} = \frac{-2+4}{3}$

$= \frac{2}{3}$

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

$= -\frac{15}{4} + \frac{65}{12} = \frac{-15 \times 3 + 65}{12} = \frac{-45+65}{12} = \frac{20}{12}$

$= \frac{5}{3}$

Q5 Simplify:

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

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

Solution (i) $\left(\frac{13}{9_3} \times \frac{-15^5}{2}\right) + \left(\frac{7}{3} \times \frac{8}{5}\right) + \left(\frac{3}{5} \times \frac{1}{2}\right)$

$-\frac{65}{6} + \frac{56}{15} + \frac{3}{10} = \frac{(-65 \times 10) + (56 \times 4) + (3 \times 6)}{60}$

$= \frac{-650 + 224 + 18}{60} = \frac{-408}{60} = \frac{-34}{5}$

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

$= \frac{5}{22}-1+\frac{6}{39}$

$= \frac{5\times 39-858+6\times 22}{858} = \frac{195-858+132}{858}$

$= -\frac{531}{858} = -\frac{177}{286}$

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