Exercise 2.4

Question 1:

Find:

(i) $12 \div \dfrac{3}{4}$ (ii) $14 \div \dfrac{5}{6}$ (iii) $8 \div \dfrac{7}{3}$

(iv) $4 \div \dfrac{8}{3}$ (v) $3 \div 2\dfrac{1}{3}$ (vi) $5 \div 3\dfrac{4}{7}$

Answer 1:

(i) $12 \div \dfrac{3}{4} = 12 \times \dfrac{4}{3} = 16$ (ii) $14 \div \dfrac{5}{6} = 14 \times \dfrac{6}{5} = \dfrac{84}{5} = 16\dfrac{4}{5}$

(iii) $8 \div \dfrac{7}{3} = 8 \times \dfrac{3}{7} = \dfrac{24}{7} = 3\dfrac{3}{7}$ (iv) $4 \div \dfrac{8}{3} = 4 \times \dfrac{3}{8} = \dfrac{3}{2} = 1\dfrac{1}{2}$

(v) $3 \div 2\dfrac{1}{3} = 3 \div \dfrac{7}{3} = 3 \times \dfrac{3}{7} = \dfrac{9}{7} = 1\dfrac{2}{7}$ (vi) $5 \div 3\dfrac{4}{7} = 5 \div \dfrac{25}{7} = 5 \times \dfrac{7}{25} = \dfrac{7}{5} = 1\dfrac{2}{5}$

Question 2:

Find the reciprocal of each of the following fractions. Classify the reciprocals as proper fraction, improper fractions and whole numbers.

(i) $\dfrac{3}{7}$ (ii) $\dfrac{5}{8}$ (iii) $\dfrac{9}{7}$ (iv) $\dfrac{6}{5}$

(v) $\dfrac{12}{7}$ (vi) $\dfrac{1}{8}$ (vii) $\dfrac{1}{11}$

Answer 2:

(i)   Reciprocal of $\dfrac{3}{7} = \dfrac{7}{3}$ $\longrightarrow$ Improper fraction

(ii) Reciprocal of $\dfrac{5}{8} = \dfrac{8}{5}$ $\longrightarrow$ Improper fraction

(iii) Reciprocal of $\dfrac{9}{7} = \dfrac{7}{9}$ $\longrightarrow$ Proper fraction

(iv) Reciprocal of $\dfrac{6}{5} = \dfrac{5}{6}$ $\longrightarrow$ Proper fraction

(v)   Reciprocal of $\dfrac{12}{7} = \dfrac{7}{12}$ $\longrightarrow$ Proper fraction

(vi)   Reciprocal of $\dfrac{1}{8} = 8 \longrightarrow$ Whole number

(vi)   Reciprocal of $\dfrac{1}{11} = 11 \longrightarrow$ Whole number

Question 3:
Find:

(i) $\dfrac{7}{3} \div 2$ (ii) $\dfrac{4}{9} \div 5$ (iii) $\dfrac{6}{13} \div 7$

(iv) $4\dfrac{1}{3} \div 3$ (v) $3\dfrac{1}{2} \div 4$ (vi) $4\dfrac{3}{7} \div 7$

Answer 3:

(i) $\dfrac{7}{3} \div 2 = \dfrac{7}{3} \times \dfrac{1}{2} = \dfrac{7 \times 1}{3 \times 2} = \dfrac{7}{6} = 1\dfrac{1}{6}$

(ii) $\dfrac{4}{9} \div 5 = \dfrac{4}{9} \times \dfrac{1}{5} = \dfrac{4 \times 1}{9 \times 5} = \dfrac{4}{45}$

(iii) $\dfrac{6}{13} \div 7 = \dfrac{6}{13} \times \dfrac{1}{7} = \dfrac{6 \times 1}{13 \times 7} = \dfrac{6}{91}$

(iv) $4\dfrac{1}{3} \div 3 = \dfrac{13}{3} \div 3 = \dfrac{13}{3} \times \dfrac{1}{3} = \dfrac{13}{9} = 1\dfrac{4}{9}$

(v) $3\dfrac{1}{2} \div 4 = \dfrac{7}{2} \div 4 = \dfrac{7}{2} \times \dfrac{1}{4} = \dfrac{7}{8}$

(vi) $4\dfrac{3}{7} \div 7 = \dfrac{31}{7} \div 7 = \dfrac{31}{7} \times \dfrac{1}{7} = \dfrac{31}{49}$

Question 4:
Find:

(i) $\dfrac{2}{5} \div \dfrac{1}{2}$ (ii) $\dfrac{4}{9} \div \dfrac{2}{3}$ (iii) $\dfrac{3}{7} \div \dfrac{8}{7}$

(iv) $2\dfrac{1}{3} \div \dfrac{3}{5}$ (v) $3\dfrac{1}{2} \div \dfrac{8}{3}$ (vi) $\dfrac{2}{5} \div 1\dfrac{1}{2}$

(vii) $3\dfrac{1}{5} \div 1\dfrac{2}{3}$ (viii) $2\dfrac{1}{5} \div 1\dfrac{1}{5}$

Answer 4:

(i) $\dfrac{2}{5} \div \dfrac{1}{2} = \dfrac{2}{5} \times \dfrac{2}{1} = \dfrac{2 \times 2}{5 \times 1} = \dfrac{4}{5}$

(ii) $\dfrac{4}{9} \div \dfrac{2}{3} = \dfrac{4}{9} \times \dfrac{3}{2} = \dfrac{2}{3}$

(iii) $\dfrac{3}{7} \div \dfrac{8}{7} = \dfrac{3}{7} \times \dfrac{7}{8} = \dfrac{3}{8}$

(iv) $2\dfrac{1}{3} \div \dfrac{3}{5} = \dfrac{7}{3} \div \dfrac{3}{5} = \dfrac{7}{3} \times \dfrac{5}{3} = \dfrac{35}{9} = 3\dfrac{8}{9}$

(v) $3\dfrac{1}{2} \div \dfrac{8}{3} = \dfrac{7}{2} \div \dfrac{8}{3} = \dfrac{7}{2} \times \dfrac{3}{8} = \dfrac{7 \times 3}{2 \times 8} = \dfrac{21}{16} = 1\dfrac{5}{16}$

(vi) $\dfrac{2}{5} \div 1\dfrac{1}{2} = \dfrac{2}{5} \div \dfrac{3}{2} = \dfrac{2}{5} \times \dfrac{2}{3} = \dfrac{2 \times 2}{5 \times 3} = \dfrac{4}{15}$

(vii) $3\dfrac{1}{5} \div 1\dfrac{2}{3} = \dfrac{16}{5} \div \dfrac{5}{3} = \dfrac{16}{5} \times \dfrac{3}{5} = \dfrac{16 \times 3}{5 \times 5} = \dfrac{48}{25} = 1\dfrac{23}{25}$

(viii) $2\dfrac{1}{5} \div 1\dfrac{1}{5} = \dfrac{11}{5} \div \dfrac{6}{5} = \dfrac{11}{5} \times \dfrac{5}{6} = \dfrac{11}{6} = 1\dfrac{5}{6}$