

Exercise 2.4

Question 1:

Find:

(i) $12 \div \frac{3}{4}$

(ii) $14 \div \frac{5}{6}$

(iii) $8 \div \frac{7}{3}$

(iv) $4 \div \frac{8}{3}$

(v) $3 \div 2\frac{1}{3}$

(vi) $5 \div 3\frac{4}{7}$

Answer 1:

(i) $12 \div \frac{3}{4} = 12 \times \frac{4}{3} = 16$

(ii) $14 \div \frac{5}{6} = 14 \times \frac{6}{5} = \frac{84}{5} = 16\frac{4}{5}$

(iii) $8 \div \frac{7}{3} = 8 \times \frac{3}{7} = \frac{24}{7} = 3\frac{3}{7}$

(iv) $4 \div \frac{8}{3} = 4 \times \frac{3}{8} = \frac{3}{2} = 1\frac{1}{2}$

(v) $3 \div 2\frac{1}{3} = 3 \div \frac{7}{3} = 3 \times \frac{3}{7} = \frac{9}{7} = 1\frac{2}{7}$

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

Question 2:

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

(i) $\frac{3}{7}$

(ii) $\frac{5}{8}$

(iii) $\frac{9}{7}$

(iv) $\frac{6}{5}$

(v) $\frac{12}{7}$

(vi) $\frac{1}{8}$

(vii) $\frac{1}{11}$

Answer 2:

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

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

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

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

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

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

(vii) Reciprocal of $\frac{1}{11} = 11$ \longrightarrow Whole number

Question 3:

Find:

(i) $\frac{7}{3} \div 2$

(ii) $\frac{4}{9} \div 5$

(iii) $\frac{6}{13} \div 7$

(iv) $4\frac{1}{3} \div 3$

(v) $3\frac{1}{2} \div 4$

(vi) $4\frac{3}{7} \div 7$

Answer 3:

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

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

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

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

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

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

Question 4:

Find:

$$(i) \quad \frac{2}{5} \div \frac{1}{2}$$

$$(ii) \quad \frac{4}{9} \div \frac{2}{3}$$

$$(iii) \quad \frac{3}{7} \div \frac{8}{7}$$

$$(iv) \quad 2\frac{1}{3} \div \frac{3}{5}$$

$$(v) \quad 3\frac{1}{2} \div \frac{8}{3}$$

$$(vi) \quad \frac{2}{5} \div 1\frac{1}{2}$$

$$(vii) \quad 3\frac{1}{5} \div 1\frac{2}{3}$$

$$(viii) \quad 2\frac{1}{5} \div 1\frac{1}{5}$$

Answer 4:

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

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

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

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

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

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

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

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