

Board – CBSE

Class – 7th

Topic – Fractions and Decimals 2.4

**Q.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)  $5 \div 3\frac{4}{7}$

**Sol:** (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)  $3 \div 2\frac{1}{3} = 3 \times \frac{3}{7} = \frac{9}{7} = 1\frac{2}{7}$       (vi)  $5 \div 3\frac{4}{7} = 5 \times \frac{7}{25} = \frac{7}{5} = 1\frac{2}{5}$

**Q.2** Find the reciprocal of each of the following fractions. Classify the reciprocals as proper fractions, 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)  $\frac{1}{11}$

**Sol:** (i) Reciprocal of  $\frac{3}{7} = \frac{7}{3} \rightarrow$  Improper fraction

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

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

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

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

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

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

**Q.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)  $4\frac{3}{7} \div 7$

**Sol:** (i)  $\frac{7}{3} \div 2 = \frac{7}{3} \times \frac{1}{2} = \frac{7}{6}$       (ii)  $\frac{4}{9} \div 5 = \frac{4}{9} \times \frac{1}{5} = \frac{4}{45}$

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

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

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

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

**Q.4** Find:

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

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

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

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

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

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

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

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

$$\frac{1}{5}$$

**Sol:** (i)  $\frac{2}{5} \div \frac{1}{2} = \frac{2}{5} \times 2 = \frac{4}{5}$

(ii)  $\frac{4}{9} \div \frac{2}{3} = \frac{4}{9} \times \frac{3}{2} = \frac{2}{3}$  (iii)  $\frac{3}{7} \div \frac{8}{7} = \frac{3}{8}$

$$\times \frac{7}{8} = \frac{3}{8}$$

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

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

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

$$= \frac{2}{5} \times \frac{2}{3} = \frac{4}{15}$$

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

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

**Q.5** Solve the following questions,  $6x = 12$

**Sol:**  $6x = 12$

$$\Rightarrow \frac{x}{6} = \frac{12}{6} \text{ [Dividing both sides by 6]}$$

$$\Rightarrow x = 2$$

**Q.6** Solve the following questions,  $\frac{t}{5} = 10$

**Sol:**  $\Rightarrow \frac{t}{5} = 10$

$$\Rightarrow \frac{t}{5} \times 5 = 10 \times 5 \text{ [Multiplying both sides by 5]}$$

$$\Rightarrow t = 50$$

**Q.7** Solve the following questions,  $\frac{2x}{3} = 18$

**Sol:**  $\frac{2x}{3} = 18$

$$\Rightarrow \frac{2x}{3} \times 3 = 18 \times 3 \text{ [Multiplying both sides by 3]}$$

$$\Rightarrow 2x = 18 \times 3$$

$$\Rightarrow \frac{2x}{2} = \frac{18 \times 3}{2} \text{ [Dividing both sides by 2]}$$

$$\Rightarrow x = 27$$

**Q.8** Solve the following questions.  $1.6 = \frac{y}{1.5}$

**Sol:**  $1.6 = \frac{y}{1.5}$

$$\Rightarrow 1.6 \times 1.5 = \frac{y}{1.5} \times 1.5 \text{ [ Multiplying both sides by 1.5]}$$

$$\Rightarrow 2.40 = y$$

$$\Rightarrow y = 2.40$$

**Q.9** Solve the following questions,  $7x - 9 = 16$

**Sol:**  $7x - 9 = 16$

$$\Rightarrow 7x - 9 + 9 = 16 + 9 \text{ [Adding 9 both sides]}$$

$$\Rightarrow 7x = 25$$

$$\Rightarrow \frac{7x}{7} = \frac{25}{7} \text{ [Dividing both sides by 7]}$$

$$\Rightarrow x = \frac{25}{7}$$

**Q.10** Solve the following questions,  $14y - 8 = 13$

**Sol:**  $14y - 8 = 13$

$$\Rightarrow 14y - 8 + 8 = 13 + 8 \text{ [Adding 8 both sides]}$$

$$\Rightarrow 14y = 21$$

$$\Rightarrow \frac{14y}{14} = \frac{21}{14} \text{ [Dividing both sides by 14]}$$

$$\Rightarrow y = \frac{3}{2}$$

**Q.11** Solve the following questions.  $17 + 6p = 9$

**Sol:**  $17 + 6p = 9$

$$\Rightarrow 17 + 6p - 17 = 9 - 17 \text{ [Subtracting 17 from both sides]}$$

$$\Rightarrow 6p = -8$$

$$\Rightarrow \frac{6p}{6} = \frac{-8}{6} \text{ [Dividing both sides by 6]}$$

$$\Rightarrow p = \frac{-4}{3}$$

**Q.12** Solve the following questions,  $\frac{x}{3} + 1 = \frac{7}{15}$

**Sol:**  $\frac{x}{3} + 1 = \frac{7}{15}$

$$\Rightarrow \frac{x}{3} + 1 - 1 = \frac{7}{15} - 1 \text{ [Subtracting 1 from both sides]}$$

$$\Rightarrow \frac{x}{3} = \frac{7-15}{15}$$

$$\Rightarrow \frac{x}{3} = \frac{-8}{15}$$

$$\Rightarrow \frac{x}{3} \times 3 = \frac{-8}{15} \times 3 \text{ [Multiplying both sides by 3]}$$

$$\Rightarrow x = \frac{-8}{5}$$