

RD SHARMA

Solutions

Class 7 Maths

Chapter 2

Ex 2.3

Q1. Find the reciprocal of each of the following fractions and classify them as proper, improper and whole numbers

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

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

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

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

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

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

Solution:

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

$\frac{7}{3}$ = improper number

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

$\frac{8}{5}$ = improper number

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

$\frac{7}{9}$ = proper number

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

$\frac{5}{6}$ = proper number

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

$\frac{7}{12}$ = proper number

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

8 = whole number

Q2. Divide:

(i) $\frac{3}{8}$ by $\frac{5}{9}$

(ii) $3\frac{1}{4}$ by $\frac{2}{3}$

(iii) $\frac{7}{8}$ by $4\frac{1}{2}$

(iv) $6\frac{1}{4}$ by $2\frac{3}{5}$

Solution:

(i) $\frac{3}{8}$ by $\frac{5}{9}$

=

$$\begin{aligned} & \frac{\frac{3}{8}}{\frac{5}{9}} \\ &= \frac{3 \times 9}{8 \times 5} \\ &= \frac{27}{40} \end{aligned}$$

(ii) $3\frac{1}{4}$ by $\frac{2}{3}$

=

$$\begin{aligned} & \frac{3\frac{1}{4}}{\frac{2}{3}} \\ &= \frac{\frac{13}{4}}{\frac{2}{3}} \\ &= \frac{13 \times 3}{4 \times 2} \\ &= \frac{39}{8} \\ &= 4\frac{7}{8} \end{aligned}$$

(iii) $\frac{7}{8}$ by $4\frac{1}{2}$

=

$$\begin{aligned} & \frac{\frac{7}{8}}{\frac{9}{2}} \\ &= \frac{7 \times 2}{9 \times 8} \\ &= \frac{14}{72} \\ &= \frac{7}{36} \end{aligned}$$

(iv) $6\frac{1}{4}$ by $2\frac{3}{5}$

=

$$\begin{aligned} & \frac{6\frac{1}{4}}{2\frac{3}{5}} \\ &= \frac{\frac{25}{4}}{\frac{13}{5}} \\ &= \frac{25 \times 5}{4 \times 13} \\ &= \frac{75}{52} \\ &= 2\frac{21}{52} \end{aligned}$$

Q3. Divide:

(i) $\frac{3}{8}$ by 4

(ii) $\frac{9}{16}$ by 6

(iii) 9 by $\frac{3}{16}$

(iv) 10 by $\frac{100}{3}$

Solution:

(i) $\frac{3}{8}$ by 4

=

$$\begin{aligned} & \frac{\frac{3}{8}}{4} \\ &= \frac{3}{8 \times 4} \\ &= \frac{3}{32} \end{aligned}$$

(ii) $\frac{9}{16}$ by 6

=

$$\begin{aligned} & \frac{\frac{9}{16}}{6} \\ &= \frac{9}{16 \times 6} \\ &= \frac{9}{96} \\ &= \frac{3}{32} \end{aligned}$$

(iii) 9 by $\frac{3}{16}$

=

$$\begin{aligned} & \frac{9}{\frac{3}{16}} \\ &= \frac{9 \times 16}{3} \\ &= 3 \times 16 \\ &= 48 \end{aligned}$$

(iv) 10 by $\frac{100}{3}$

=

$$\begin{aligned} & \frac{10}{\frac{100}{3}} \\ &= \frac{10 \times 3}{100} \\ &= \frac{3}{10} \end{aligned}$$

Q4. Simplify:

(i) $\frac{3}{10} \div \frac{10}{3}$

(ii) $4\frac{3}{5} \div \frac{4}{5}$

(iii) $5\frac{4}{7} \div 1\frac{3}{10}$

(iv)

$$4 \div 2\frac{2}{5}$$

Solution:

(i)

$$\begin{aligned} & \frac{3}{10} \div \frac{10}{3} \\ &= \frac{3 \times 3}{10 \times 10} \\ &= \frac{9}{100} \end{aligned}$$

(ii)

$$\begin{aligned} & 4\frac{3}{5} \div \frac{4}{5} \\ &= \frac{23}{5} \div \frac{4}{5} \\ &= \frac{23 \times 5}{5 \times 4} \\ &= \frac{23}{4} \\ &= 5\frac{3}{4} \end{aligned}$$

(iii)

$$\begin{aligned} & 5\frac{4}{7} \div 1\frac{3}{10} \\ &= \frac{39}{7} \div \frac{13}{10} \\ &= \frac{39 \times 10}{7 \times 13} \\ &= \frac{390}{91} \\ &= 4\frac{2}{7} \end{aligned}$$

(iv)

$$\begin{aligned} & 4 \div 2\frac{2}{5} \\ &= 4 \div \frac{12}{5} \\ &= \frac{4}{\frac{12}{5}} \\ &= \frac{20}{12} \\ &= 1\frac{2}{3} \end{aligned}$$

Q5. A wire of length $12\frac{1}{2}$ m is cut into 10 pieces of equal length . Find the length of each piece.

Solution:

Given, $12\frac{1}{2} \text{m} = \frac{25}{2} \text{m}$

$$10 \text{ pieces of wire} = \frac{25}{2} \text{ m}$$

1 piece of wire =

$$\begin{aligned} & \frac{\frac{25}{2}}{10} \\ &= \frac{25}{20} \\ &= \frac{5}{4} \\ &= 1\frac{1}{4} \end{aligned}$$

Q6. The length of a rectangular plot of area $65\frac{1}{3}\text{m}^2$ is $12\frac{1}{4}\text{m}$. What is the width of the plot?

Solution:

Given,

The length of a rectangular plot of area $65\frac{1}{3}\text{m}^2$ is $12\frac{1}{4}\text{m}$.

$$\text{Area} = 65\frac{1}{3} \text{ m}^2 = \frac{196}{3} \text{ m}^2$$

$$\text{Length} = 12\frac{1}{4} \text{ m}$$

Now, Area = length x breadth

$$\frac{196}{3} \text{ m}^2 = \frac{49}{4} \text{ m} \times \text{breadth}$$

$$\text{Breadth} = \frac{4}{49} \text{ m} \times \frac{196}{3} \text{ m}^2$$

$$\text{Breadth} = \frac{196 \times 4}{49 \times 3}$$

$$\text{Breadth} = \frac{184}{147}$$

$$\text{Breadth} = 5\frac{3}{4}$$

Q7. By what number $6\frac{2}{9}$ be multiplied to get $4\frac{4}{9}$?

Solution:

Given,

$$6\frac{2}{9} = \frac{56}{9},$$

$$\text{And, } 4\frac{4}{9} = \frac{40}{9}$$

Let x be the number which needs to be multiplied by $\frac{56}{9}$,

Now,

$$x \times \frac{56}{9} = \frac{40}{9}$$

$$x = \frac{40}{9} \times \frac{9}{56}$$

$$x = \frac{40}{56} = \frac{5}{7}$$

Q8. The product of two numbers is $25\frac{5}{6}$. If one of the numbers is $6\frac{2}{3}$, find the other?

Solution:

Given,

The product of two numbers is $25\frac{5}{6}$. If one of the numbers is $6\frac{2}{3}$

$$6\frac{2}{3} = \frac{20}{3}$$

$$\text{And, } 25\frac{5}{6} = \frac{155}{6}$$

Let the other number be x.

$$\frac{20}{3} \times x = \frac{155}{6}$$

$$x = \frac{3}{20} \times \frac{155}{6}$$

$$x = \frac{3 \times 155}{20 \times 6}$$

$$x = \frac{31}{8} = 3\frac{7}{8}$$

Q9. The cost of $6\frac{1}{4}$ kg of apples is Rs 400. At what rate per kg are the apples being sold?

Solution:

Given,

The cost of $6\frac{1}{4}$ kg of apples is Rs 400

$$6\frac{1}{4} = \frac{25}{4}$$

Cost of $\frac{25}{4}$ kg of apple = Rs 400

Cost of 1 kg of apple = Rs $\frac{4}{25} \times 400 = \text{Rs } 64$

Q10. By selling oranges at the rate of Rs $5\frac{1}{4}$ per orange, a fruit seller get Rs 630. How many dozens of oranges does he sell?

Solution:

Given,

Oranges at the rate of Rs $5\frac{1}{4}$ per orange, a fruit seller get Rs 630

$$5\frac{1}{4} = \frac{21}{4}$$

Number of oranges for Rs $\frac{21}{4} = 1$

Number of oranges for Re 1 = $\frac{4}{21}$

Number of oranges for Rs 630 = $\frac{4}{21} \times 630 = 120$ apples

12 apples = 1 dozen

Therefore, 120 apples = 10 dozen

Q11. In mid-day meal scheme $\frac{3}{10}$ litre of milk is given to each student of a primary school. If 30 litres of milk is distributed everyday in the school, how many students are there in the school?

Solution:

Given,

$\frac{3}{10}$ litre of milk is given to each student of a primary school.

30 litres of milk is distributed everyday in the school

Number of students given $\frac{3}{10}$ litres of milk = 1

Number of students given 1 litre of milk = $\frac{10}{3}$

Number of students given 30 litres of milk = $\frac{10}{3} \times 30 = 100$ Students

Q12. In a charity show Rs 6496 were collected by selling some tickets. If the price of each ticket was Rs $50\frac{3}{4}$, how many tickets were sold?

Solution:

Given,

Rs 6496 were collected by selling some tickets.

The price of each ticket was Rs $50\frac{3}{4}$

$$50\frac{3}{4} = \frac{203}{4}$$

Number of tickets bought at Rs $\frac{203}{4} = 1$

Number of tickets bought at Re 1 = $\frac{4}{203}$

Number of tickets bought at Rs 6496 = $\frac{4}{203} \times 6496 = 4 \times 32 = 128$