

Board – CBSE

Class – 7th

Topic – Fractions

**Q.1** Reenu got  $\frac{2}{7}$  part of an apple while Sonal got  $\frac{4}{5}$  part of it. Who got the larger part and

by how much?

**Ans.** We have,

By cross multiplication, we get:

$$2 \times 5 = 10 \text{ and } 4 \times 7 = 28$$

However,  $10 < 28$

$$\therefore \frac{2}{7} < \frac{4}{5}$$

Thus, Sonal got the larger part of the apple.

$$\text{Now, } \frac{4}{5} - \frac{2}{7} = \frac{28-10}{35} = \frac{18}{35}$$

$\therefore$  Sonal got  $\frac{18}{35}$  part of the apple more than Reenu.

**Q.2** Find the sum:  $\frac{8}{9} + \frac{7}{12}$

**Ans.**

$$\begin{aligned} & \frac{8}{9} + \frac{7}{12} \\ &= \frac{32}{36} + \frac{21}{36} \quad [\because \text{LCM of 9 and 12} = 36] \\ &= \frac{32+21}{36} \\ &= \frac{53}{36} = 1\frac{17}{36} \end{aligned}$$

**Q.3** Find the sum:  $\frac{5}{6} + \frac{7}{8}$

**Ans.**

$$\begin{aligned} & \frac{5}{6} + \frac{7}{8} \\ &= \frac{20}{24} + \frac{21}{24} \quad [\because \text{LCM of 6 and 8} = 24] \\ &= \frac{20+21}{24} \\ &= \frac{41}{24} = 1\frac{17}{24} \end{aligned}$$

**Q.4** Simplify:  $8 - 4\frac{1}{2} - 2\frac{1}{4}$

**Ans.**  $8 - 4\frac{1}{2} - 2\frac{1}{4}$   
 $= \frac{8}{1} - \frac{9}{2} - \frac{9}{4}$   
 $= \frac{32-18-9}{4}$  [ $\because$  LCM of 1, 2 and 4 = 4]  
 $= \frac{32-27}{4} = \frac{5}{4} = 1\frac{1}{4}$

**Q.5** Aneeta bought  $3\frac{3}{4}$  kg apples and  $4\frac{1}{2}$  kg guava. What is the total weight of fruits purchased by her?

**Ans.** Total weight of fruits bought by Aneeta =  $(3\frac{3}{4} + 4\frac{1}{2})$  kg

Now, we have:

$$\begin{aligned} &= 3\frac{3}{4} + 4\frac{1}{2} = \frac{15}{4} + \frac{9}{2} \\ &= \frac{15+18}{4} \quad [\because \text{LCM of 2 and 4} = 4] \\ &= \frac{15+18}{4} = \frac{33}{4} \\ &= 8\frac{1}{4} \end{aligned}$$

Hence, the total weight of the fruits purchased by Aneeta is  $8\frac{1}{4}$  kg

**Q.6** A picture is  $7\frac{3}{5}$  cm wide. How much should it be trimmed to fit in a frame  $7\frac{3}{10}$  cm wide?

**Ans.** Actual width of the picture =  $7\frac{3}{5}$  cm =  $\frac{38}{5}$  cm

Required width of the picture =  $7\frac{3}{10}$  cm =  $\frac{73}{10}$  cm

$\therefore$  Extra width =  $(\frac{38}{5} - \frac{73}{10})$  cm

$$\begin{aligned} &= (\frac{76-73}{10}) \text{ cm} \quad [\because \text{LCM of 5 and 10 is 10}] \\ &= \frac{3}{10} \text{ cm} \end{aligned}$$

Hence, the width of the picture should be trimmed by  $\frac{3}{10}$  cm.

**Q.7** What should be added to  $7\frac{3}{5}$  to get 18?

**Ans.** Required number to be added =  $18 - 7\frac{3}{5}$

$$= \frac{18}{1} - \frac{38}{5}$$

$$= \frac{90-38}{5} \quad [\because \text{LCM of 1 and 5} = 5]$$

$$= \frac{52}{5} = 10\frac{2}{5}$$

Hence, the required number is  $10\frac{2}{5}$ .

**Q.8** A piece of wire  $3\frac{3}{4}$  m long broke into two pieces. One piece is  $1\frac{1}{2}$  m long. How long is the other piece?

**Ans.** Required length of other piece of wire =  $\left(3\frac{3}{4} - 1\frac{1}{2}\right) m$

$$= \left(\frac{15}{4} - \frac{3}{2}\right)m$$

$$= \left(\frac{15-6}{4}\right)m \quad [\because \text{LCM of 4 and 2} = 4]$$

$$= \frac{9}{4}m = 2\frac{1}{4}m$$

Hence, the length of the other piece of wire is  $2\frac{1}{4}m$

**Q.9** Of  $\frac{2}{3}$  and  $\frac{5}{9}$ , which is greater and by how much?

**Ans.** First we have to compare the fractions:  $\frac{2}{3}$  and  $\frac{5}{9}$ .

By cross multiplication, we have:  $2 \times 9 = 18$  and  $5 \times 3 = 15$

However,  $18 > 15$

$$\therefore \frac{2}{3} > \frac{5}{9}$$

So,  $\frac{2}{3}$  is larger than  $\frac{5}{9}$ .

$$\text{Now, } \frac{2}{3} - \frac{5}{9}$$

$$= \frac{6-5}{9} \quad [\because \text{LCM of 3 and 9} = 9]$$

$$= \frac{1}{9}$$

Hence,  $\frac{2}{3}$  is  $\frac{1}{9}$  part more than  $\frac{5}{9}$

**Q.10** Simplify:  $\frac{2}{3} \times \frac{5}{44} \times \frac{33}{35}$

**Ans.** We have  $\frac{2}{3} \times \frac{5}{44} \times \frac{33}{35}$

$$= \frac{2 \times 5 \times 33}{3 \times 44 \times 35}$$

$$= \frac{1 \times 1 \times 11}{1 \times 22 \times 7}$$

$$= \frac{1 \times 1 \times 1}{1 \times 2 \times 7}$$

$$= \frac{1}{14}$$

**Q.11** Apples are sold at Rs  $18\frac{2}{5}$  per kg. What is the cost of  $3\frac{3}{4}$  kg of apples?

**Ans.** Cost of 1kg of apples = Rs  $18\frac{2}{5} = \text{Rs } \frac{92}{5}$

$$\therefore \text{Cost of } 3\frac{3}{4} \text{ kg of apples} = \text{Rs } \left( \frac{92}{5} \times 3\frac{3}{4} \right)$$

$$\text{Rs } \left( \frac{92}{5} \times \frac{15}{4} \right) = \text{Rs } \left( \frac{23 \times 3}{1 \times 1} \right) = \text{Rs } 69$$

Hence, the cost of  $3\frac{3}{4}$  kg of apples is Rs 69.

**Q.12** A car covers a certain distance at a uniform speed of  $66\frac{2}{3}$  km per hour. How much distance will it cover in 9 hours?

**Ans.** Distance covered by the car in 1 h =  $66\frac{2}{3}$  km

$$\text{Distance covered by the car in 9 h} = \left( 66\frac{2}{3} \times 9 \right) \text{ km}$$

$$\left( \frac{200}{3} \times 9 \right) \text{ km} = \left( \frac{200 \times 9}{3 \times 1} \right) \text{ km} = (200 \times 3) \text{ km} = 600 \text{ km}$$

Hence, the distance covered by the car in 9 h will be 600 km.

**Q.13** Rohit takes  $4\frac{4}{5}$  minutes to make complete round of a circular park. How much time will he take to make 15 rounds?

**Ans.**

*Time taken by Rohit to complete one round of the circular park =  $4\frac{4}{5}$  min =  $\frac{24}{5}$  min*

$$\therefore \text{Time taken to complete 15 rounds} = \left(15 \times \frac{24}{5}\right) \text{min}$$

$$= (3 \times 24) \text{min}$$

$$= 72 \text{ min}$$

$$= 1 \text{ h } 12 \text{ min} [\because 1 \text{ hr} = 60 \text{ min}]$$

Hence, Rohit will take 1 h 12 min to make 15 complete rounds of the circular park.

**Q.14** *Each side of a square field is  $4\frac{2}{3}$  m. Find its area.*

**Ans.** *Side of the square field =  $4\frac{2}{3}$  m*

$$\therefore \text{Area of the square} = (\text{Side})^2$$

$$= \left(4\frac{2}{3} \text{ m}\right)^2$$

$$= \left(\frac{14}{3} \text{ m}\right)^2 = \frac{14}{3} \text{ m} \times \frac{14}{3} \text{ m} = \left(\frac{14 \times 14}{3 \times 3}\right) \text{m}^2 = \frac{196}{9} \text{m}^2 = 21\frac{7}{9} \text{m}^2$$

*Hence, the area of the square field is  $21\frac{7}{9} \text{ m}^2$ .*

**Q.15** *By what number should  $1\frac{3}{4}$  be divided to get  $2\frac{1}{2}$ ?*

**Ans.** *Required number =  $1\frac{3}{4} \div 2\frac{1}{2}$*

$$= \frac{7}{4} \div \frac{5}{2}$$

$$= \frac{7}{4} \times \frac{2}{5} \quad \left[ \because \text{Reciprocal of } \frac{5}{2} = \frac{2}{5} \right]$$

$$= \frac{7 \times 1}{2 \times 5} = \frac{7}{10}$$