

Question 1.

Sarita bought $\frac{2}{5}$ metre of ribbon and Laiita $\frac{3}{4}$ metre of ribbon. What is the total length of the ribbon they bought?

Solution:

Ribbon bought by Sarita = $\frac{2}{5}$ m

Ribbon bought by Lai ita = $\frac{3}{4}$ m

\therefore Total length of the ribbon they bought

$$= \frac{2}{5} \text{ m} + \frac{3}{4} \text{ m} = \left(\frac{2}{5} + \frac{3}{4} \right) \text{ m}$$

$$[\text{L.C.M. (5, 4) = 20}]$$

$$= \left(\frac{2 \times 4 + 3 \times 5}{20} \right) \text{ m}$$

$$= \left(\frac{8}{20} + \frac{15}{20} \right) \text{ m} = \frac{8+15}{20} \text{ m}$$

$$= \frac{23}{20} \text{ m} = 1 \frac{3}{20} \text{ m}$$

Question 2.

A bamboo of length $2\frac{3}{4}$ metre broke into two pieces. One piece was $\frac{7}{8}$ metre long. How long is the other piece?

Solution:

Let of original piece of bamboo = $2\frac{3}{4} = \frac{11}{4}$ metre

Length of one piece = $\frac{7}{8}$ metre

Length of other piece = $\frac{7}{8}$ metre – $\frac{7}{8}$ metre

$$= \left(\frac{11}{4} - \frac{7}{8} \right) \text{metre}$$

$$= \left(\frac{11 \times 2 - 7 \times 1}{8} \right) \text{m}$$

$$[\text{LCM} = (4, 8) = 8]$$

$$= \frac{22 - 7}{8} = \frac{15}{8} \text{metre or } 1\frac{7}{8} \text{metre}$$

Question 3.

Nidhi's house is $1\frac{9}{10}$ km from her school. She walked some distance and then took a bus for $1\frac{1}{2}$ km to reach the school. How far did she walk?

Solution:

Distance of Nidhi's house from school

$$= 1\frac{9}{10}\text{km} = \frac{19}{10}\text{km}$$

$$\text{Distance travelled by bus} = 1\frac{1}{2}\text{ km} = \frac{3}{2}\text{ km}$$

\therefore Distance walked by Nidhi

$$= \left(\frac{19}{10} - \frac{3}{2} \right) \text{km} \quad [\text{LCM}(10, 2) = 10]$$

$$= \left(\frac{19 \times 1 - 3 \times 5}{10} \right) \text{km}$$

$$= \frac{19 - 15}{10} = \frac{4}{10} \text{km} = \frac{2}{5} \text{km}$$

Question 4.

From a rope of length $20\frac{1}{2}$ m, a piece of length $3\frac{5}{8}$ m is cut off. Find the length of the remaining rope.

Solution:

Total length of rope = $20\frac{1}{2}$ m

Length cut off = $3\frac{5}{8}$ m

$$\text{Remaining rope} = \left(20\frac{1}{2} - 3\frac{5}{8}\right) \text{ m}$$

$$= \left(\frac{41}{2} - \frac{29}{8}\right) \text{ m}$$

$$\begin{array}{r|l} 2 & 2, 8 \\ \hline 4 & 1, 4 \\ \hline & 1, 1 \end{array}$$

\therefore LCM of 2 and 8 is 8

$$= \frac{41 \times 4 - 29 \times 1}{8} \left(\frac{164 - 29}{8}\right) \text{ m}$$

$$= \left(\frac{135}{8}\right) \text{ m} = 16\frac{7}{8} \text{ m}$$

$$\begin{array}{r} 16 \\ 8 \overline{)135} \\ \underline{8} \\ 55 \\ \underline{48} \\ 7 \end{array}$$

sss

\therefore Length of the remaining rope = $16\frac{7}{8}$ m

Question 5.

The weight of three packets are $2\frac{3}{4}$ kg, $3\frac{1}{3}$ kg, and $5\frac{2}{5}$ kg. Find total weight of all the three packets.

Solution:

Weight of 1st packet = $2\frac{3}{4}$

Weight of 2nd packet = $3\frac{1}{3}$

Weight of 3rd packet = $5\frac{2}{5}$

\therefore Total weight

$$= 2\frac{3}{4} + 3\frac{1}{3} + 5\frac{2}{5} = \frac{11}{4} + \frac{10}{3} + \frac{27}{5}$$

(\because L.C.M. 4, 3, 5 = 60)

$$\begin{array}{r|l} 2 & 4, 3, 5 \\ \hline 2 & 2, 3, 5 \\ \hline & 1, 3, 5 \end{array}$$

$$= \frac{11 \times 15 + 10 \times 20 + 27 \times 12}{60}$$

$$= \frac{165 + 200 + 324}{60}$$

$$= \frac{689}{60} = 11\frac{29}{60} \text{ kg}$$

Question 6.

Shivani read 25 pages of a book containing 100 pages. Nandni read $\frac{2}{5}$ of the same book. Who read less?

Solution:

$$\text{Shivani read pages} = \frac{25}{100} = \frac{1}{4}$$

$$\text{Nandni read pages} = \frac{2}{5}$$

Now, LCM of 4 and 5 = 20

Making $\frac{1}{4}$ and $\frac{2}{5}$ as like fractions

$$\Rightarrow \frac{1}{4} = \frac{1 \times 5}{4 \times 5} = \frac{5}{20}$$

$$\Rightarrow \frac{2}{5} = \frac{2 \times 4}{5 \times 4} = \frac{8}{20}$$

$$\text{Here, } \frac{5}{20} < \frac{8}{20}$$

$$\therefore \frac{1}{4} < \frac{2}{5}$$

\therefore Shivani read less pages than Nandni.

Question 7.

Rafiq exercised for $\frac{3}{6}$ of an hour, while Rohit, exercised for $\frac{3}{4}$ of an hour. Who exercised for a longer time and by what fraction of an hour?

Solution:

Rafiq exercised for $\frac{3}{6}$ of an hour
 $= \frac{1}{2}$ of an hour

Rohit exercised for $\frac{3}{4}$ of an hour
 $= \frac{3}{4}$ of an hour

LCM of 2 and 4 = 4

$$\text{Now, } \frac{1}{2} = \frac{1 \times 2}{2 \times 2} = \frac{2}{4}$$

$$\text{Also, } \frac{3}{4} = \frac{3 \times 1}{4 \times 1} = \frac{3}{4}$$

$$\text{Here, } \frac{2}{4} < \frac{3}{4}$$

$$\text{i.e. } \frac{1}{2} < \frac{3}{4}$$

$$\text{i.e. } \frac{3}{6} < \frac{3}{4}$$

Rafiq's exercise < Rohit's exercise

More exercise done by Rohit in fraction

$$= \frac{3}{4} - \frac{2}{4} = \frac{1}{4}$$

Rohit does exercise more than Rafiq by $\frac{1}{4}$ of an hour.

