

CLASS : 5

SUBJECT : MATHEMATICS

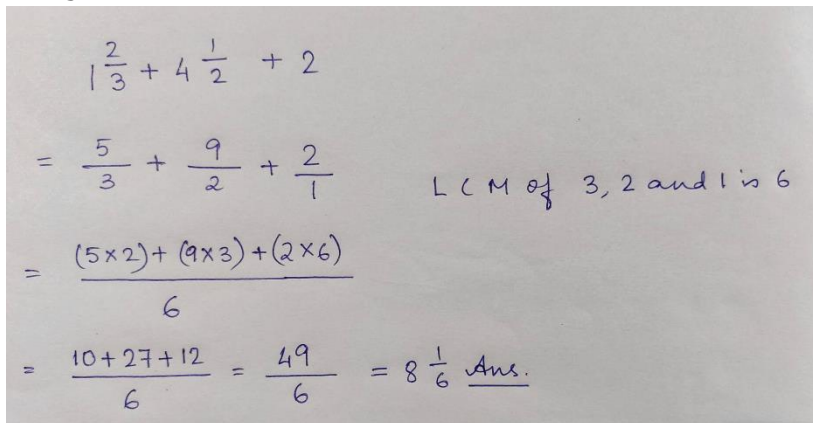
TOPIC : FRACTIONS

ANSWERS

I. Find the sum:

$$\begin{aligned} \text{a) } & \frac{1}{9} + \frac{7}{9} \\ & = \frac{1+7}{9} = \frac{8}{9} \text{ (Ans.)} \end{aligned}$$

$$\text{b) } 1\frac{2}{3} + 4\frac{1}{2} + 2$$

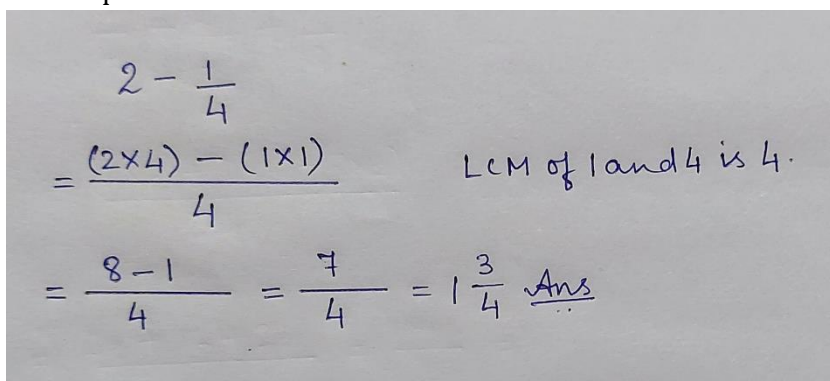


Handwritten solution for problem I.b:

$$\begin{aligned} & 1\frac{2}{3} + 4\frac{1}{2} + 2 \\ & = \frac{5}{3} + \frac{9}{2} + \frac{2}{1} \quad \text{LCM of 3, 2 and 1 is 6} \\ & = \frac{(5 \times 2) + (9 \times 3) + (2 \times 6)}{6} \\ & = \frac{10 + 27 + 12}{6} = \frac{49}{6} = 8\frac{1}{6} \text{ Ans.} \end{aligned}$$

II. Find the difference:

$$\text{a) } 2 - \frac{1}{4}$$



Handwritten solution for problem II.a:

$$\begin{aligned} & 2 - \frac{1}{4} \\ & = \frac{(2 \times 4) - (1 \times 1)}{4} \quad \text{LCM of 1 and 4 is 4.} \\ & = \frac{8 - 1}{4} = \frac{7}{4} = 1\frac{3}{4} \text{ Ans.} \end{aligned}$$

$$\begin{aligned} \text{b) } & \frac{5}{4} - \frac{1}{4} \\ & = \frac{5-1}{4} = \frac{4}{4} = 1 \text{ (Ans.)} \end{aligned}$$

c) $5 - 2\frac{1}{2}$

Handwritten solution for $5 - 2\frac{1}{2}$. The work shows the conversion of 5 to a fraction with denominator 2, finding the LCM of 1 and 2, and then performing the subtraction to get $2\frac{1}{2}$.

$$\begin{aligned} & 5 - 2\frac{1}{2} \\ &= \frac{5}{1} - \frac{5}{2} \\ &= \frac{(5 \times 2) - (5 \times 1)}{2} \quad \text{LCM of 1 and 2 is 2} \\ &= \frac{10 - 5}{2} = \frac{5}{2} = 2\frac{1}{2} \text{ Ans} \end{aligned}$$

III. Multiply:

a) $\frac{2}{25} \times 100$

Handwritten solution for $\frac{2}{25} \times 100$. The work shows the cancellation of 25 from 100, leaving 4, and then multiplying 2 by 4 to get 8.

$$\begin{aligned} & \frac{2}{25} \times 100 \\ &= \frac{2 \times 4}{1} \\ &= \frac{8}{1} = 8 \text{ Ans} \end{aligned}$$

b) $\frac{2}{3} \times 60$

Handwritten solution for $\frac{2}{3} \times 60$. The work shows the cancellation of 3 from 60, leaving 20, and then multiplying 2 by 20 to get 40.

$$\begin{aligned} & \frac{2}{3} \times 60 \\ &= \frac{2 \times 20}{1} \\ &= \frac{40}{1} = 40 \text{ Ans} \end{aligned}$$

c) $\frac{2}{7} \times \frac{3}{5}$

Handwritten solution for $\frac{2}{7} \times \frac{3}{5}$. The work shows the multiplication of numerators (2 x 3) and denominators (7 x 5) to get $\frac{6}{35}$.

$$\begin{aligned} & \frac{2}{7} \times \frac{3}{5} \\ &= \frac{2 \times 3}{7 \times 5} = \frac{6}{35} \text{ Ans} \end{aligned}$$

IV. Divide:

a) $\frac{5}{9} \div \frac{10}{3}$

$$\frac{5}{9} \div \frac{10}{3}$$
$$= \frac{5}{9} \times \frac{3}{10}$$
$$= \frac{\cancel{5}^1}{\cancel{9}_3} \times \frac{\cancel{3}^1}{\cancel{10}_2} = \frac{1}{3} \times \frac{1}{2} = \frac{1 \times 1}{3 \times 2} = \frac{1}{6} \text{ Ans}$$

b) $\frac{5}{6} \div \frac{2}{3}$

$$\frac{5}{6} \div \frac{2}{3}$$
$$= \frac{5}{6} \times \frac{3}{2}$$
$$= \frac{5}{\cancel{6}_2} \times \frac{\cancel{3}^1}{2}$$
$$= \frac{5}{2} \times \frac{1}{2}$$
$$= \frac{5 \times 1}{2 \times 2} = \frac{5}{4} \text{ Ans}$$

c) $\frac{5}{20} \div \frac{20}{8}$

$$\frac{5}{20} \div \frac{20}{8}$$
$$= \frac{5}{20} \times \frac{8}{20}$$
$$= \frac{\cancel{5}^1}{\cancel{20}_5} \times \frac{\cancel{8}^1}{\cancel{20}_{42}}$$
$$= \frac{1}{5} \times \frac{1}{2} = \frac{1 \times 1}{5 \times 2} = \frac{1}{10} \text{ Ans}$$

V. Word problems:

a) Length of red ribbon bought by Sofia = $\frac{3}{8}$ metre

Length of yellow ribbon bought by Sofia = $\frac{1}{8}$ metre

∴ The total length of ribbon bought by Sofia = $\frac{3}{8} + \frac{1}{8}$ metre

$$= \frac{3+1}{8} = \frac{4}{8} = \frac{1}{2} \text{ metre}$$

(Ans.) Sofia had bought $\frac{1}{2}$ metre of ribbon.

b) Total length of a ribbon = $12\frac{1}{2} = \frac{25}{2}$ m

Length of ribbon already used by Mrs. Dutta = $4\frac{1}{2} = \frac{9}{2}$ m

∴ Length of ribbon left = $\frac{25}{2} - \frac{9}{2} = \frac{25-9}{2} = \frac{16}{2} = 8$ m

(Ans.) 8m of ribbon is left.

c) Amount of cloth used to stitch 1 skirt = $2\frac{1}{2} = \frac{5}{2}$ m

∴ Amount of cloth needed to stitch 5 skirts = $5 \times \frac{5}{2}$ m
 $= \frac{5}{1} \times \frac{5}{2}$ m
 $= \frac{25}{2} = 12\frac{1}{2}$ m

(Ans.) The tailor needs $12\frac{1}{2}$ m of cloth to stitch 5 skirts.

d) Total length of the ribbon = 3 m

Length of ribbon needed to make a bow = $\frac{1}{6}$ m

∴ No. of bows Sunita can make from a 3m ribbon = $3 \text{ m} \div \frac{1}{6}$ m
 $= \frac{3}{1} \times \frac{6}{1} = \frac{18}{1} = 18$ bows.

(Ans.) Sunita can make 18 bows from a 3m ribbon.

VI. Complete the following exercises from the chapter:

EXERCISE 4.4 (A)

1. $\frac{2}{3}$ 2. $\frac{5}{4}$ 3. $\frac{11}{7}$ 4. $\frac{5}{6}$ 5. $\frac{35}{24}$
-

EXERCISE 4.4(B)

3. $\frac{7}{8}$
-

EXERCISE 4.5 (A)

5. $\frac{1}{6}$ 6. $\frac{1}{12}$ 7. $\frac{1}{8}$ 8. $\frac{7}{15}$ 9. $\frac{9}{4}$ 10. $\frac{9}{2}$
-

EXERCISE 4.5 (B)

2. $2\frac{3}{4}$ L
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EXERCISE 4.6 (B)

1. ₹ 28 2. ₹ 60 3. 18 km
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EXERCISE 4.7 (B)

1. $\frac{3}{32}$ 2. $\frac{7}{15}$ 3. $\frac{25}{32}$
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EXERCISE 4.8 (C)

1. 8 2. $\frac{9}{2}$ 3. 12 4. 8 5. $\frac{9}{2}$