



Fractions Ex 6.9 Q5

Answer :

$$\begin{aligned} \text{(i)} \quad & \frac{2}{3} + \frac{3}{4} + \frac{1}{2} \\ &= \frac{2 \times 4}{3 \times 4} + \frac{3 \times 3}{4 \times 3} + \frac{1 \times 6}{2 \times 6} \quad \left(\text{Because LCM of 3, 4 \& 2 is 12} \right) \\ &= \frac{8}{12} + \frac{9}{12} + \frac{6}{12} \\ &= \frac{8+9+6}{12} \\ &= \frac{23}{12} \end{aligned}$$

$$\begin{aligned} \text{(ii)} \quad & \frac{5}{8} + \frac{2}{5} + \frac{3}{4} \\ &= \frac{5 \times 5}{8 \times 5} + \frac{2 \times 8}{5 \times 8} + \frac{3 \times 10}{4 \times 10} \quad \left(\text{Because LCM of 8, 5 \& 4 is 40} \right) \\ &= \frac{25}{40} + \frac{16}{40} + \frac{30}{40} \\ &= \frac{25+16+30}{40} \\ &= \frac{71}{40} \end{aligned}$$

$$\begin{aligned} \text{(iii)} \quad & \frac{3}{10} + \frac{7}{15} + \frac{3}{5} \\ &= \frac{3 \times 3}{10 \times 3} + \frac{7 \times 2}{15 \times 2} + \frac{3 \times 6}{5 \times 6} \quad \left(\text{Because LCM of 10, 15 \& 5 is 30} \right) \\ &= \frac{9}{30} + \frac{14}{30} + \frac{18}{30} \\ &= \frac{9+14+18}{30} \\ &= \frac{41}{30} \end{aligned}$$

$$\begin{aligned} \text{(iv)} \quad & \frac{3}{4} + \frac{7}{16} + \frac{5}{8} \\ &= \frac{3 \times 4}{4 \times 4} + \frac{7 \times 1}{16 \times 1} + \frac{5 \times 2}{8 \times 2} \quad \left(\text{Because LCM of 4, 16 \& 8 is 16} \right) \\ &= \frac{12}{16} + \frac{7}{16} + \frac{10}{16} \\ &= \frac{12+7+10}{16} \\ &= \frac{29}{16} \end{aligned}$$

$$\begin{aligned} \text{(v)} \quad & 4\frac{2}{3} + 3\frac{1}{4} + 7\frac{1}{2} \\ &= \frac{4 \times 3 + 2}{3} + \frac{3 \times 4 + 1}{4} + \frac{7 \times 2 + 1}{2} \\ &= \frac{14}{3} + \frac{13}{4} + \frac{15}{2} \\ &= \frac{14 \times 4}{3 \times 4} + \frac{13 \times 3}{4 \times 3} + \frac{15 \times 6}{2 \times 6} \quad \left(\text{Because LCM of 3, 4 \& 2 is 12} \right) \end{aligned}$$

$$\begin{aligned}
&= \frac{56}{12} + \frac{39}{12} + \frac{90}{12} \\
&= \frac{56+39+90}{12} \\
&= \frac{185}{12}
\end{aligned}$$

$$\begin{aligned}
&\text{(vi)} \quad 7\frac{1}{3} + 3\frac{2}{4} + 5\frac{1}{6} \\
&= \frac{7 \times 3 + 1}{3} + \frac{3 \times 4 + 2}{4} + \frac{5 \times 6 + 1}{6} \\
&= \frac{22}{3} + \frac{14}{4} + \frac{31}{6} \\
&= \frac{22 \times 4}{3 \times 4} + \frac{14 \times 3}{4 \times 3} + \frac{31 \times 2}{6 \times 2} \quad \left(\text{Because LCM of 3, 4 \& 6 is 12} \right) \\
&= \frac{88}{12} + \frac{42}{12} + \frac{62}{12} \\
&= \frac{88+42+62}{12} \\
&= \frac{192 \div 12}{12 \div 12} = 16 \quad \left(\text{HCF of numerator \& denominator is 12} \right)
\end{aligned}$$

$$\begin{aligned}
&\text{(vii)} \quad 7 + \frac{7}{4} + 5\frac{1}{6} \\
&\frac{7}{1} + \frac{7}{4} + \frac{5 \times 6 + 1}{6} = \frac{7}{1} + \frac{7}{4} + \frac{31}{6} \\
&= \frac{7 \times 12}{1 \times 12} + \frac{7 \times 3}{4 \times 3} + \frac{31 \times 2}{6 \times 2} \quad \left(\text{Because LCM of 1, 4 \& 6 is 12} \right) \\
&= \frac{84}{12} + \frac{21}{12} + \frac{62}{12} \\
&= \frac{84+21+62}{12} \\
&= \frac{167}{12}
\end{aligned}$$

$$\begin{aligned}
&\text{(viii)} \quad \frac{5}{6} + 3 + \frac{3}{4} \\
&\frac{5 \times 2}{6 \times 2} + \frac{3 \times 12}{1 \times 12} + \frac{3 \times 3}{4 \times 3} \quad \left(\text{Because LCM of 6, 1 \& 4 is 12} \right) \\
&= \frac{10}{12} + \frac{36}{12} + \frac{9}{12} \\
&= \frac{10+36+9}{12} \\
&= \frac{55}{12}
\end{aligned}$$

$$\begin{aligned}
&\text{(ix)} \quad \frac{7}{18} + \frac{5}{6} + 1\frac{1}{12} \\
&\frac{7}{18} + \frac{5}{6} + \frac{12 \times 1 + 1}{12} = \frac{7}{18} + \frac{5}{6} + \frac{13}{12} \\
&= \frac{7 \times 2}{18 \times 2} + \frac{5 \times 6}{6 \times 6} + \frac{13 \times 3}{12 \times 3} \\
&= \frac{14}{36} + \frac{30}{36} + \frac{39}{36} \\
&= \frac{14+30+39}{36} \\
&= \frac{83}{36}
\end{aligned}$$

Fractions Ex 6.9 Q6

Answer :

$$(i) \quad \square - \frac{5}{8} = \frac{1}{4}$$

$$\square = \frac{1}{4} + \frac{5}{8}$$

$$\square = \frac{1 \times 2}{4 \times 2} + \frac{5 \times 1}{8 \times 1} \quad \left(\text{Because LCM of 4 \& 8 is 8} \right)$$

$$\square = \frac{2}{8} + \frac{5}{8} = \frac{2+5}{8} = \frac{7}{8}$$

$$\square = \frac{7}{8}$$

$$(ii) \quad \square - \frac{1}{5} = \frac{1}{2}$$

$$\square = \frac{1}{2} + \frac{1}{5}$$

$$\square = \frac{1 \times 5}{2 \times 5} + \frac{1 \times 2}{5 \times 2} = \frac{5}{10} + \frac{2}{10} = \frac{5+2}{10}$$

$$\square = \frac{7}{10}$$

$$(iii) \quad \frac{1}{2} - \square = \frac{1}{6}$$

$$\square = \frac{1}{2} - \frac{1}{6}$$

$$\square = \frac{1 \times 3}{2 \times 3} - \frac{1 \times 1}{6 \times 1} \quad \left(\text{Because LCM of 2 \& 6 is 6} \right)$$

$$\square = \frac{3}{6} - \frac{1}{6} = \frac{2 \div 2}{6 \div 2} \quad \left(\text{HCF of the numerator \& denominator is 2} \right)$$

$$\square = \frac{1}{3}$$

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