Fractions Ex 6.9 Q5

Answer :

(i) $\frac{2}{3}+\frac{3}{4}+\frac{1}{2}$

$=\frac{2\times4}{3\times4}+\frac{3\times3}{4\times3}+\frac{1\times6}{2\times6}$ (Because LCM of $3,4$ &2 is 12)

$=\frac{8}{12}+\frac{9}{12}+\frac{6}{12}$

$=\frac{8+9+6}{12}$

$=\frac{23}{12}$

(ii) $\frac{5}{8}+\frac{2}{5}+\frac{3}{4}$

$=\frac{5\times5}{8\times5}+\frac{2\times8}{5\times8}+\frac{3\times10}{4\times10}$ (Because LCM of $8,5$ & 4 is 40)

$=\frac{25}{40}+\frac{16}{40}+\frac{30}{40}$

$=\frac{25+16+30}{40}$

$=\frac{71}{40}$

(iii) $\frac{3}{10}+\frac{7}{15}+\frac{3}{5}$

$=\frac{3\times3}{10\times3}+\frac{7\times2}{15\times2}+\frac{3\times6}{5\times6}$ (Because LCM of $10,15$ & 5 is 30)

$=\frac{9}{30}+\frac{14}{30}+\frac{18}{30}$

$=\frac{9+14+18}{30}$

$=\frac{41}{30}$

(iv) $\frac{3}{4}+\frac{7}{16}+\frac{5}{8}$

$=\frac{3\times4}{4\times4}+\frac{7\times1}{16\times1}+\frac{5\times2}{8\times2}$ (Because LCM of $4,16$ & 8 is 16)

$=\frac{12}{16}+\frac{7}{16}+\frac{10}{16}$

$=\frac{12+7+10}{16}$

$=\frac{29}{16}$

(v) $4\frac{2}{3}+3\frac{1}{4}+7\frac{1}{2}$

$=\frac{4\times3+2}{3}+\frac{3\times4+1}{4}+\frac{7\times2+1}{2}$

$=\frac{14}{3}+\frac{13}{4}+\frac{15}{2}$

$=\frac{14\times4}{3\times4}+\frac{13\times3}{4\times3}+\frac{15\times6}{2\times6}$ (Because LCM of $3,4$ & 2 is 12)

$= \frac{56}{12} + \frac{39}{12} + \frac{90}{12}$

$= \frac{56+39+90}{12}$

$= \frac{185}{12}$

$\left(\text{vi}\right)\ 7\frac{1}{3} + 3\frac{2}{4} + 5\frac{1}{6}$

$= \frac{7\times3+1}{3} + \frac{3\times4+2}{4} + \frac{5\times6+1}{6}$

$= \frac{22}{3} + \frac{14}{4} + \frac{31}{6}$

$= \frac{22\times4}{3\times4} + \frac{14\times3}{4\times3} + \frac{31\times2}{6\times2}$ $\left(\text{Because LCM of } 3, 4 \text{ \& } 6 \text{ is } 12\right)$

$= \frac{88}{12} + \frac{42}{12} + \frac{62}{12}$

$= \frac{88+42+62}{12}$

$= \frac{192 \div 12}{12 \div 12} = 16$ $\left(\text{HCF of numerator \& denominator is } 12\right)$

$\left(\text{vii}\right)\ 7 + \frac{7}{4} + 5\frac{1}{6}$

$\frac{7}{1} + \frac{7}{4} + \frac{5\times6+1}{6} = \frac{7}{1} + \frac{7}{4} + \frac{31}{6}$

$= \frac{7\times12}{1\times12} + \frac{7\times3}{4\times3} + \frac{31\times2}{6\times2}$ $\left(\text{Because LCM of } 1, 4 \text{ \& } 6 \text{ is } 12\right)$

$= \frac{84}{12} + \frac{21}{12} + \frac{62}{12}$

$\frac{84+21+62}{12}$

$= \frac{167}{12}$

$\left(\text{viii}\right)\ \frac{5}{6} + 3 + \frac{3}{4}$

$\frac{5\times2}{6\times2} + \frac{3\times12}{1\times12} + \frac{3\times3}{4\times3}$ $\left(\text{Because LCM of } 6, 1 \text{ \& } 4 \text{ is } 12\right)$

$= \frac{10}{12} + \frac{36}{12} + \frac{9}{12}$

$= \frac{10+36+9}{12}$

$= \frac{55}{12}$

$\left(\text{ix}\right)\ \frac{7}{18} + \frac{5}{6} + 1\frac{1}{12}$

$\frac{7}{18} + \frac{5}{6} + \frac{12\times1+1}{12} = \frac{7}{18} + \frac{5}{6} + \frac{13}{12}$

$= \frac{7\times2}{18\times2} + \frac{5\times6}{6\times6} + \frac{13\times3}{12\times3}$

$= \frac{14}{36} + \frac{30}{36} + \frac{39}{36}$

$= \frac{14+30+39}{36}$

$= \frac{83}{36}$

Fractions Ex 6.9 Q6

Answer :

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

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

$\square = \frac{1\times2}{4\times2} + \frac{5\times1}{8\times1}$ (Because LCM of 4 & 8 is 8)

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

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

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

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

$\square = \frac{1\times5}{2\times5} + \frac{1\times2}{5\times2} = \frac{5}{10} + \frac{2}{10} = \frac{5+2}{10}$

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

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

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

$\square = \frac{1\times3}{2\times3} - \frac{1\times1}{6\times1}$ (Because LCM of 2 & 6 is 6)

$\square = \frac{3}{6} - \frac{1}{6} = \frac{2\div2}{6\div2}$ (HCF of the numerator & denominator is 2)

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

********** END **********