

3. Simplify.

(a) $\frac{7}{12} + \frac{9}{12} - \frac{5}{12} = \frac{11}{12}$

(b) $\frac{9}{10} - \frac{3}{5} + \frac{7}{8}$ LCM = 40
 $\frac{9 \times 4 = 36}{10 \times 4 = 40}$

$\frac{3 \times 8 = 24}{5 \times 8 = 40}$ $\frac{7 \times 5 = 35}{8 \times 5 = 40}$

$$\begin{array}{r} 36 \\ - 24 \\ \hline 12 \end{array} \quad \begin{array}{r} 35 \\ + 12 \\ \hline 47 \end{array} \quad \begin{array}{r} 1 \quad 7 \\ 40 \overline{) 47} \\ - 40 \\ \hline 07 \end{array}$$

Ans is $\frac{17}{40}$

(c) $\frac{5}{12} - \frac{2}{3} - \frac{1}{2} + \frac{7}{1}$ L.C.M = 12

$\frac{5 = 5 \times 1 = 5}{12 = 12 \times 1 = 12}$

$\frac{2 = 2 \times 4 = 8}{3 = 3 \times 4 = 12}$ $\frac{1 = 1 \times 6 = 6}{2 = 2 \times 6 = 12}$

$\frac{7 = 7 \times 12 = 84}{1 = 1 \times 12 = 12}$

$\frac{5 - 8 - 6 + 84 = 75}{12}$

Ans = $\frac{75}{12}$

$$(ii) \frac{1}{2} + \frac{3}{4} - \frac{5}{8} - \frac{1}{18}$$

$$\text{L.C.M.} = 18$$

$$\frac{1 \times 9 = 9}{2 \times 9 = 18}$$

$$\frac{3 \times 4 = 12}{4 \times 4 = 16}$$

$$\frac{5 \times 2 = 10}{8 \times 2 = 16}$$

$$\frac{1 \times 18 = 1}{18 \times 1 = 18} \quad \text{Ans} = \frac{9}{18}$$

$$\begin{array}{r} +12 \\ \hline -28 \\ \hline 10 \\ \hline 10 \\ \hline -1 \\ \hline 9 \end{array}$$

The ans is = $\frac{9}{18}$

$$(3) 8\frac{3}{4} + 7\frac{1}{2} + 3\frac{1}{4} - 2\frac{1}{2}$$

$$\frac{35}{4} + \frac{15}{2} + \frac{13}{4} - \frac{5}{2}$$

$$\text{L.C.M.} 4 \quad \frac{35 + 30 - 13 - 10}{4}$$

$$\frac{35 \times 1 = 35}{4 \times 1 = 4} \quad \frac{15 \times 2 = 30}{2 \times 2 = 4} \quad \frac{13 \times 1 = 13}{4 \times 1 = 4}$$

$$(f) \quad 10\frac{5}{8} - 7\frac{2}{3} + 8\frac{1}{3} - 5\frac{1}{2}$$

$$\frac{85}{8} \quad \frac{23}{3} \quad \frac{25}{3} \quad \frac{11}{2}$$

$$\frac{85}{8} = \frac{85 \times 1}{8 \times 1} = \frac{85}{8}$$

$$85 - 50 + 48$$

$$\frac{23}{3} = \frac{23 \times 2}{3 \times 2} = \frac{46}{6}$$

$$\frac{25}{3} = \frac{25 \times 2}{3 \times 2} = \frac{50}{6}$$

$$\frac{11}{2} \times 3 = \frac{33}{2}$$

$$\frac{85 - 50 + 48 + 15 + 33}{6}$$

$$\text{Ans} = 2\frac{4}{6}$$

$$\frac{15 \times 8 = 120}{1 \times 8 = 8}$$

$$\frac{3}{2} = \frac{3 \times 4 = 12}{2 \times 4 = 8}$$

$$\frac{12 + 51 - 120 + 12 = 25}{8}$$

$$\begin{array}{r} 3 \\ 8 \overline{) 25} \\ \underline{24} \\ 01 \end{array}$$

$$\text{Ans} = 3 \frac{1}{8}$$

$$(i) \frac{25}{1} - 20 \frac{1}{2} + 15 \frac{3}{5} - \frac{5}{1}$$

$$= \frac{250}{10} - \frac{205}{10} + \frac{158}{10} - \frac{50}{10} = \frac{45 + 108}{10}$$

$$= \frac{250 + 158 - 205 - 50}{10} = \frac{151}{10}$$

$$= \frac{408 - 205 - 50}{10}$$

$$= \frac{201 - 50}{10} = \frac{151}{10}$$

$$= 15 \frac{1}{10}$$

$$(g) \quad \frac{55}{12} - 8 + 8 - \frac{53}{5}$$

$$\frac{55}{12} = \frac{55 \times 5}{12 \times 5} = \frac{325}{60} \quad \text{L.C.M} = 60$$

$$\frac{28}{5} \times 12 = \frac{336}{5 \times 12} = \frac{336}{60}$$

$$\frac{8}{1} \times 80 = \frac{380}{1 \times 80} = \frac{380}{80}$$

$$\frac{8}{1} \times 60 = \frac{480}{1 \times 60} = \frac{480}{60}$$

$$\begin{array}{r} 336 \\ - 325 \\ \hline 11 \end{array}$$

$$\frac{336 - 325 + 380 + 480}{60}$$

Ans $\rightarrow \frac{21}{60}$

$$(h) \quad \frac{101}{4} + 6\frac{3}{8} - \frac{15}{1} + 1\frac{1}{2}$$

$$\frac{41 \times 2}{4 \times 2} = \frac{82}{8}$$

$$\frac{51}{8} = \frac{51 \times 1}{8 \times 1} = \frac{51}{8}$$