C.W 3/9/21

I

Exercise - 9B (Ch-9)

Q3> Simplify

Qa> $\frac{7}{12} + \frac{9}{12} - \frac{5}{12}$

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

Qb> $\frac{9}{10} - \frac{3}{5} + \frac{7}{8} = \frac{9}{10} + \frac{7}{8} - \frac{3}{5}$

Ans> LCM $\longrightarrow$ $\frac{(9\times4)+(5\times7)-(8\times3)}{40}$

$= \frac{36+35-24}{40} = \frac{47}{40}$

$= 1\frac{7}{40}$

Qc> $\frac{5}{12} - \frac{2}{3} - \frac{1}{2} + 7 = \frac{5}{12} + \frac{7}{1} - \frac{2}{3} - \frac{1}{2}$

Ans> LCM = $\frac{(1\times5)+(2\times7)-[(3\times4)+(1\times2)]}{12}$

$= \frac{5+14-(12+2)}{12}$

$= \frac{5+14-14}{12}$

$= \frac{19-14}{12}$

$= \frac{5}{12} = 6\frac{3}{12}$

d) $\frac{1}{2}+\frac{3}{4}-\frac{5}{8}-\frac{1}{16}$

Ans> LCM = 16

So, $\frac{(8\times1)+(4\times3)-[(2\times5)+(1\times1)]}{16}$

$= \frac{(8+12)-(10+1)}{16}$

$= \frac{20-11}{16}$

$= \frac{9}{16}$

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

Ans> Converting fractions to Improper fractions

$= \left[\frac{35}{4}+\frac{15}{2}\right]-\left[\frac{13}{4}+\frac{5}{2}\right]$

= LCM = 4

$= \frac{(35\times1+2\times15)-(1\times13+2\times5}{4}$

$= \frac{(35+30)-(13+10)}{4}$

$= \frac{65-23}{4}$

$= \frac{42}{4} = 10\frac{2}{4}$

f) $10\frac{5}{6} - 7\frac{2}{3} + 8\frac{1}{3} - 5\frac{1}{2}$

$= 10\frac{5}{6} + 8\frac{1}{3} - 7\frac{2}{3} - 5\frac{1}{2}$

Ans) Adding / subtracting whole numbers we get,

$= (10+8) - (7+5)$

$= 18 - 12 = 6$ whole

LCM $= 6 = 6\left(\frac{(5+2)-(4-3)}{6}\right)$

$= 6\left(\frac{7-7}{6}\right)$

$= 6\,\frac{0}{6} = \frac{6}{6} = 6$

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Ex - 9-B

Q3)

g) $5\frac{5}{12} - 6 + 8 - 5\frac{3}{5}$

$= 5\frac{5}{12} + 8 - 6 - 5\frac{3}{5}$

Ans) $= \frac{65}{12} + \frac{8}{1} - \frac{6}{1} - \frac{28}{5}$

LCM $= 60$

$= \frac{[(5\times65)+(60\times8)] - [(60\times6)+(12\times28)]}{60}$

$= \frac{[325+480] - [360+336]}{60}$

$= \frac{805 - 696}{60}$

$= \frac{109}{60} = 1\frac{49}{60}$

b> $10\frac{1}{4} + 6\frac{3}{8} - 15 + 1\frac{1}{2}$

$= 10\frac{1}{4} + 6\frac{3}{8} + 1\frac{1}{2} - 15$

Ans> $= \frac{41}{4} + \frac{51}{8} + \frac{3}{2} - \frac{15}{1}$

LCM = 8

$= \frac{(41\times2) + (51\times1) + (3\times4) - (8\times15)}{8}$

$= \frac{(82 + 51 + 12) - 120}{8}$

$= \frac{145 - 120}{8}$

$= \frac{25}{8}$

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

i> $25 - 20\frac{1}{2} + 10\frac{3}{5} - 5$

$= 25 + 10\frac{3}{5} - 20\frac{1}{2} - 5$

Ans> $= \frac{25}{1} + \frac{78}{5} - \frac{41}{2} - \frac{5}{1}$

LCM = 10

$= \frac{[(25\times10) + (78\times2)] - [(5\times41) + (10\times5)]}{10}$

$= \frac{(250 + 156) - (205 + 50)}{10}$

$= \frac{406 - 255}{10}$

$= \frac{151}{10} = 15\frac{1}{10}$

i) $\frac{9}{14} - 1\frac{3}{7} + 4\frac{3}{7} - 1\frac{2}{21}$

$= \frac{9}{14} + 4\frac{3}{7} - 1\frac{3}{7} - 1\frac{2}{21}$

Ans)

$= \frac{9}{14} + \frac{31}{7} - \frac{9}{7} - \frac{23}{21}$

$= LCM = 42$

$= \frac{[(3\times9)+(31\times6)] - [(6\times9)+(2\times23)]}{42}$

$= \frac{(27+186) - (54+46)}{42}$

$= \frac{213 - 100}{42}$

$= \frac{113}{42}$

$= 2\frac{29}{42}$