3 Simplify:

a. $\frac{7}{12} + \frac{9}{12} - \frac{5}{12}$

Ans 7+9-5 (If the ~~denomifarors~~ denominators are same then the numerators will simplify)

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

b. $\frac{9}{10} - \frac{3}{5} + \frac{7}{8}$

Ans LCM of 10, 5, 8 = 40

$\frac{9 \times 4 = 36}{10 \times 4 = 40}$ $\frac{3 \times 8 = 24}{5 \times 8 = 40}$ ~~$\frac{7 \times 5}{8 \times 5}$~~ $\frac{7 \times 5 = 35}{8 \times 5 = 40}$

$36 - 24 + 35$

$= \frac{47}{40}$

convert into mixed fraction $= 1\frac{7}{40}$

c. $\frac{5}{12} - \frac{2}{3} - \frac{1}{2} + 7$

Ans LCM of 12, 3, 2 and 1 (As 7 doesn't have any denominator

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

Ans LCM of 2, 4, 8, 16 = 16

$\frac{1 \times 8 = 8}{2 \times 8 = 16}$ $\frac{3 \times 4 = 12}{4 \times 4 = 16}$ $\frac{5 \times 2 = 10}{8 \times 2 = 16}$ $\frac{1 \times 1 = 1}{16 \times 1 = 16}$

$8 + 12 - 10 - 1 = \frac{9}{16}$

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

Ans: Convert into improper fraction $= \frac{35}{4}, \frac{15}{2}, \frac{13}{4}, \frac{5}{2}$

LCM of 4, 2, 4, 2 = 4

$\frac{35 \times 1 = 35}{4 \times 1 = 4}$ $\frac{15 \times 2 = 30}{2 \times 2 = 4}$ $\frac{13 \times 1 = 13}{4 \times 1 = 4}$ $\frac{5 \times 2 = 10}{2 \times 2 = 4}$

$35 + 30 - 13 - 10 = \frac{42}{4}$

Convert into mixed fraction $= 10\frac{1}{2}$

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

Ans. Convert into improper fractions $= \frac{65}{6}, \frac{23}{3}, \frac{25}{3}, \frac{11}{2}$

LCM OF 6, 3, 3, 2 = 6

$\frac{65 \times 1}{6 \times 1} = \frac{65}{6}$ $\frac{23 \times 2}{3 \times 2} = \frac{46}{6}$ $\frac{25 \times 2}{3 \times 2} = \frac{50}{6}$ $\frac{11 \times 3}{2 \times 3} = \frac{33}{6}$

$65 - 46 + 50 - 33 = \frac{36}{6} = 6$

~~Convert into mixed fractions~~ =

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

Ans. Convert in-to improper fractions $= \frac{65}{12}, \frac{6}{1}, \frac{8}{1}, \frac{28}{5}$

LCM of 12, 1, 1, 5 = 60

$\frac{65 \times 5}{12 \times 5} = \frac{325}{60}$ $\frac{6 \times 60}{1 \times 60} = \frac{360}{60}$ $\frac{8 \times 60}{1 \times 60} = \frac{480}{60}$ $\frac{28 \times 12}{5 \times 12} = \frac{336}{60}$

$325 - 360 + 480 - 336 = \frac{109}{60}$

Convert into mixed fractions = $1\frac{49}{60}$

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

Ans: Convert into mixed fractions = $\frac{41}{4}, \frac{51}{8}, \frac{15}{1}, \frac{3}{2}$

LCM of 4, 8, 1, 2 = 8

$\frac{41 \times 2}{4 \times 2} = \frac{82}{8}$ $\frac{51 \times 1}{8 \times 1} = \frac{51}{8}$ $\frac{15 \times 8}{1 \times 8} = \frac{120}{8}$ $\frac{3 \times 4}{2 \times 4} = \frac{12}{8}$

$82 + 51 - 120 + 12 = \frac{27}{8}$

Convert into to mixed fraction = $3\frac{3}{8}$