HW
3.9.22

2. Subtract the following fractions:

b) $\frac{16}{27} - \frac{7}{8}$

Ans- $\frac{(2 \times 16) - (3 \times 7)}{54}$

$= \frac{32 - 21}{54} = \frac{11}{54}$

3	27, 18
3	9, 6
3	3, 2
2	1, 2
	1, 1

L.C.M = 54

g) $13\frac{7}{9} - 8\frac{5}{12}$

Ans- $\frac{124}{9} - \frac{101}{12}$

$= \frac{(4 \times 124) - (3 \times 101)}{36}$

$= \frac{496 - 303}{36} = \frac{193}{36}$

3	9, 12
3	3, 4
4	1, 4
	1, 1

L.C.M = 36

h) $6\frac{3}{17} - 4$

L.C.M = 17

Ans- $\frac{105}{17} - \frac{4}{1}$

$\frac{(1 \times 105) - (17 \times 4)}{17}$

$= \frac{105 - 68}{17} = \frac{37}{17}$

i) $30\frac{3}{4} - 25$

L.C.M = 4

Ans- $\frac{123}{4} - \frac{25}{1}$

$\frac{(1 \times 123) - (4 \times 25)}{4}$

$= \frac{123 - 100}{4} = \frac{23}{4}$

j) $20\frac{7}{12} - 15$

L.C.M = 12

Ans- $\frac{247}{12} - \frac{15}{1}$

$= \frac{(1 \times 247) - (12 \times 15)}{12}$

$= \frac{247 - 180}{12} = \frac{67}{12}$

k) $12\frac{7}{8} - 11\frac{1}{2}$

Ans- $\frac{103}{8} - \frac{23}{2}$ L.C.M = 8

$(1 \times 103) - (4 \times 23)$

$= \frac{(1 \times 103) - (4 \times 23)}{8}$

$= \frac{103 - 92}{8} = \frac{11}{8}$

L) $100\frac{1}{4} - 99$

Ans- $\frac{401}{4} - \frac{99}{1}$

$= \frac{(1 \times 401) - (4 \times 99)}{4}$

$= \frac{401 - 396}{4} = \frac{5}{4}$

3. Simplify:

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

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

2	12, 5
2	6, 5
3	3, 5
5	1, 5

$= \frac{(5 \times 65) - (6 \times 60) + (8 \times 60) - (12 \times 28) \times 1}{60}$

L.C.M = 60

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

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

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

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

2 | 4, 8, 12
2 | 2, 4, 1, 1
2 | 1, 2, 1, 1
1, 1, 1, 1

$$= \frac{(2 \times 41) + (1 \times 51) - (8 \times 15) + (3 \times 4)}{8} \quad \text{L.C.M} = 8$$

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

$$= \frac{82 + 51 + 12 - 120}{8} = \frac{25}{8}$$

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

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

2 | 1, 2, 5, 1
5 | 1, 1, 5, 1
1, 1, 1, 1

L.C.M = 10

$= \frac{(10 \times 25) - (5 \times 41) + (2 \times 78) - (10 \times 5)}{10}$

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

$= \frac{250 + 156 - 205 - 50}{10} = \frac{151}{10}$

ii) $\frac{9}{14} - \frac{9}{7} + \frac{37}{7} - 1\frac{2}{21}$

Ans- $= \frac{(9 \times 3) - (6 \times 9) + (6 \times 37) - 2 \times 23}{42}$

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

$= \frac{27 + 186 - 54 - 46}{42} = \frac{113}{42}$