

Ex - 9, B

3. ~~P~~ Simplify

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

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

$$= \frac{9 \times 4 + 7 \times 5 - 3 \times 8}{40}$$

L.C.M. = 40

$$= \frac{36 + 35 - 24}{40} = \frac{71 - 24}{40} = \frac{47}{40} = 1 \frac{7}{40}$$

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

$$2 \mid 12, 3, 2, 1$$

$$2 \mid 6, 3, 1, 1$$

$$3 \mid 3, 3, 1, 1$$

$$1, 1, 1, 1$$

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

$$2 \times 2 \times 3 = 12$$

$$Q = \frac{5 \times 1 + 7 \times 12 - 2 \times 4 - 1 \times 6}{12}$$

$$= \frac{5 + 84 - 8 - 6}{12} = \frac{89 - 14}{12} = \frac{75}{12}$$

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

$$2 \mid 2, 4, 8, 16$$

$$2 \mid 1, 2, 4, 8$$

$$2 \mid 1, 1, 2, 4$$

$$2 \mid 1, 1, 1, 2$$

$$1, 1, 1, 1$$

$$2 \times 2 \times 2 \times 2 = 16$$

$$\frac{1 \times 8 + 3 \times 4 - 5 \times 2 - 1 \times 1}{12} =$$

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

$$e) \quad 8\frac{3}{4} + 7\frac{1}{2} - 3\frac{1}{4} - 2\frac{1}{2} \quad \begin{array}{r} 2 \\ 2 \end{array} \quad \begin{array}{l} 4, 2, 4, 2 \\ 2, 1, 2, 1 \\ 1, 1, 1, 1 \end{array}$$

$$\frac{35}{4} + \frac{15}{2} - \frac{13}{4} - \frac{5}{2} \quad \begin{array}{r} 2 \\ 2 \end{array} \quad \begin{array}{l} 2 \times 2 = 4 \end{array}$$

$$1 \times 35 + 15 \times 2 - 13 \times 1 - 5 \times 2$$

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

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

Hw

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

$$\frac{65}{6} - \frac{23}{3} + \frac{25}{3} - \frac{11}{2}$$

$$1 \times 65 + 25 \times 2 - 23 \times 2 \quad \begin{array}{r} 3 \\ 2 \end{array} \quad \begin{array}{l} 6, 3, 3, 2 \\ 2, 1, 1, 2 \\ 1, 1, 1, 1 \end{array}$$

$$1 \times 65 + 25 \times 2 - 23 \times 2 - 11 \times 3$$

$$3 \times 2 = 6$$

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

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g) $5\frac{5}{12} - \frac{6}{1} + \frac{8}{1} - 5\frac{3}{5}$

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

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

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

$$\frac{325 + 480 - 360 - 336}{60} = \frac{805 - 360}{60} = \frac{445}{60}$$

$$\frac{805 - 696}{60} = \frac{109}{60}$$

h) $10\frac{1}{4} + 6\frac{3}{8} - \frac{15}{1} + \frac{12}{1} - 1\frac{1}{2}$

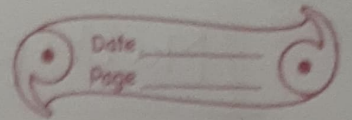
$$\frac{41}{4} + \frac{51}{8} + \frac{3}{2} - \frac{15}{1}$$

2	4, 8, 2, 1
2	2, 4, 1, 1
2	1, 2, 1, 1
	1, 1, 1, 1

lcm $2 \times 2 \times 2 = 8$

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

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$$\frac{4 \times 82 + 51 + 120 - 120}{8} = \frac{145 - 120}{8} = \frac{25}{8}$$

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

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

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

$2 \times 5 = 10$

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

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

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

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

7	14, 7, 7, 21
2	2, 1, 1, 3
3	1, 1, 1, 3
	1, 1, 1, 1

$7 \times 2 \times 3 = 42$

$$\frac{9 \times 3 + 31 \times 6 - 9 \times 6 - 23 \times 2}{42}$$

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