Homework

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Ex. 9(B)

1(a) $\frac{5}{6} + \frac{7}{12}$ LCM of denominators 6, 12.

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

$\frac{5}{6} + \frac{7}{12} = \left(\frac{5}{6} \times \frac{2}{2}\right) + \left[\frac{7}{12} \times \frac{1}{1}\right] = \frac{10+7}{12}$

$= \frac{17}{12} = 1\frac{5}{12}$

b $\frac{4}{5} + \frac{3}{10} + \frac{1}{2}$ LCM of denomitors 5, 10, 2

$= 2 \times 5 = 10$

$\frac{4}{5} + \frac{3}{10} + \frac{1}{2} = \left[\frac{4}{5} \times \frac{2}{2}\right] + \left[\frac{3}{10} \times \frac{1}{1}\right] +$

$\left[\frac{1}{2} \times \frac{5}{5}\right] = \frac{8+3+5}{10} = \frac{16}{10} = 1\frac{6}{10}$

c $\frac{5}{6} + \frac{7}{12} + \frac{5}{24}$ LCM of denomitor ~~6+12~~
6, 12, 24 = 3×2×2×2 = 24

$\frac{5}{6} + \frac{7}{12} + \frac{5}{24} = \left[\frac{5}{6} \times \frac{4}{4}\right] + \left[\frac{7}{12} \times \frac{2}{2}\right] +$

$\left[\frac{5}{24} \times \frac{1}{1}\right] = \frac{20+14+5}{24} = \frac{39}{24} = 1\frac{15}{24}$

d $\frac{2}{7} + \frac{3}{5} + \frac{1}{2}$ LCM of denominator
7, 5, 2 = 7×5×2 = 70

$\frac{2}{7} + \frac{3}{5} + \frac{1}{2} = \frac{2}{7} \times \frac{10}{10} + \frac{3}{5} \times \frac{14}{14} +$

$\frac{1}{2} \times \frac{35}{35} = \frac{20+42+35}{70} = \frac{97}{70}$

$1\frac{27}{70}$

e $\frac{5}{16} + \frac{7}{10} + \frac{3}{5}$ LCM of denominator
16, 10, 15 = 2×5×8 = 80

$$\frac{5}{16}+\frac{7}{10}+\frac{2}{5}=\frac{5}{16}\times\frac{5}{5}+\frac{7}{10}\times\frac{8}{8}+$$

$$\frac{2}{5}\times\frac{16}{16}=\frac{25+56+32}{80}=\frac{113}{80}=1\frac{33}{80}$$

f $\frac{16}{25}+\frac{9}{10}+\frac{3}{8}$ LCM of denominator

25, 10, 8 = 5×5×2×4
= 200

$$\frac{16}{25}+\frac{9}{10}+\frac{3}{8}=\frac{16}{25}\times\frac{8}{8}+\frac{9}{10}\times\frac{20}{20}+$$

$$\frac{3}{8}\times\frac{25}{25}=\frac{128+180+75}{200}=\frac{383}{200}$$

9 $1\frac{1}{4}+3\frac{3}{8}=\frac{5}{4}+\frac{27}{8}$ LCM of denominator

4, 8 = 2×2×2 = 8

$$\frac{5}{4}+\frac{27}{8}=\left(\frac{5}{4}\times\frac{2}{2}\right)+\frac{27}{8}\times\frac{1}{1}=\frac{28}{8}\times\frac{11}{7}=$$

$$\frac{10+27}{8}=\frac{37}{8}=4\frac{5}{8}$$

h $3\frac{1}{3} + 7\frac{5}{6} + 5\frac{1}{2} = \frac{9}{3} + \frac{47}{6} + \frac{11}{2}$

LCM of denominator $= 3 \times 2 = 6$

$\frac{9}{3} + \frac{47}{6} + \frac{11}{2} = \left(\frac{9}{3} \times \frac{2}{2} + \frac{47}{6} \times \frac{1}{1} + \left(\frac{11}{2} \times \frac{3}{3}\right)\right) = \frac{18 + 47 + 33}{6} = \frac{98}{6}$

$= 10\frac{38}{6}$

i $6\frac{5}{14} + 20 + 7\frac{3}{7} + 8\frac{7}{12} + \frac{89}{14} + \frac{20}{1}$

$+ \frac{52}{7} + \frac{103}{12}$ LCM of denominator $= 2 \times 7 \times 6 = 84$

$\frac{89}{14} + \frac{20}{1} + \frac{52}{7} + \frac{103}{12} = \left(\frac{89}{14} \times \frac{6}{6}\right)$

$\left(\frac{20}{1} \times \frac{84}{84}\right) + \left(\frac{52}{7} \times \frac{12}{12} + \frac{103}{12} \times \frac{7}{7}\right.$

$= \frac{534 + 1680 + 624 + 721}{84}$

$\frac{3559}{84} = 42\frac{31}{84}$.