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Proper fractions — Numerator smaller than Denominator.

Examples —

$$\frac{1}{2}, \frac{3}{5}, \frac{5}{9}$$

Improper fractions —

Denominator smaller than numerator.

Examples — $\frac{2}{2}, \frac{5}{2}, \frac{7}{3}$

Mixed fractions — ~~fractions~~,

A fraction made up of a whole number and a proper fraction is a mixed fraction.

Examples — $2\frac{1}{2}, 4\frac{1}{5}$

Integral part — The whole number part is called the integral part.

Fractional part — The fraction is called the fractional part.

(2)

Example - $7\frac{2}{5}$ -

Integral part = 7

Fractional part = $\frac{2}{5}$

Exc - 7-A

Q2- Fill in the blanks -

(a) $\frac{1}{2}$ of 36

sol-

$$\frac{1}{2} \times 36 = 18$$

(b) $\frac{1}{7}$ of 105

sol-

$$\frac{1}{7} \times 105 = 15$$

(c) $\frac{1}{3}$ of 45

sol-

$$\frac{1}{3} \times 45 = 15$$

(d) $\frac{2}{3}$ of 39

$$\text{sol- } \frac{2}{3} \times 39$$

$$= 26$$

(e) $\frac{1}{4}$ of 128

sol-

$$\frac{1}{4} \times 128$$

$$= 32$$

(f) $\frac{3}{4}$ of 100

sol-

$$\frac{3}{4} \times 100$$

$$= 75$$

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(g) $\frac{7}{12}$ of 108

Sol-

$$\frac{7}{12} \times 108$$

$$= 63$$

(h) $\frac{9}{16}$ of 144

Sol-

$$\frac{9}{16} \times 144$$

$$= 81$$

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Exe- 7-A Page No.:

Q6. Change into mixed fraction.

(a) $\frac{9}{4}$

sol-
$$\begin{array}{r} 2 \\ 4 \overline{) 9} \\ \underline{8} \\ 1 \end{array}$$

Ans = $2\frac{1}{4}$

(b) $\frac{7}{5}$

sol-
$$\begin{array}{r} 1 \\ 5 \overline{) 7} \\ \underline{5} \\ 2 \end{array}$$

Ans = $1\frac{2}{5}$

(c) $\frac{12}{7}$

sol-
$$\begin{array}{r} 01 \\ 7 \overline{) 12} \\ \underline{07} \\ 05 \end{array}$$

Ans = $1\frac{5}{7}$

(d) $\frac{35}{8}$

sol-
$$\begin{array}{r} 04 \\ 8 \overline{) 35} \\ \underline{32} \\ 03 \end{array}$$

Ans = $4\frac{3}{8}$

(e) $\frac{42}{15}$

sol-
$$\begin{array}{r} 02 \\ 15 \overline{) 42} \\ \underline{30} \\ 12 \end{array}$$

Ans = $2\frac{12}{15}$

"You have to take the calculated risk, to earn something." - Dhirubhai Ambani

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④ $\frac{56}{12}$

sol -
$$\begin{array}{r} 04 \\ 12 \overline{) 56} \\ \underline{48} \\ 08 \end{array}$$

Ans = $4\frac{8}{12}$

⑤ $\frac{97}{11}$

sol -
$$\begin{array}{r} 08 \\ 11 \overline{) 97} \\ \underline{88} \\ 09 \end{array}$$

Ans = $8\frac{9}{11}$

Q7- change into improper fraction.

⑥ $3\frac{2}{3}$

sol -
$$\begin{aligned} & \frac{3 \times 3 + 2}{3} \\ &= \frac{9+2}{3} \\ &= \frac{11}{3} \text{ Ans.} \end{aligned}$$

⑦ $7\frac{5}{11}$

sol -
$$\begin{aligned} &= \frac{7 \times 11 + 5}{11} \\ &= \frac{77+5}{11} \\ &= \frac{82}{11} \text{ Ans.} \end{aligned}$$

⑧ $7\frac{4}{9}$

sol -
$$\begin{aligned} &= \frac{7 \times 9 + 4}{9} \\ &= \frac{63+4}{9} = \frac{67}{9} \text{ Ans.} \end{aligned}$$

⑨ $4\frac{8}{9}$

sol -
$$\begin{aligned} &= \frac{4 \times 9 + 8}{9} \\ &= \frac{36+8}{9} \\ &= \frac{44}{9} \text{ Ans.} \end{aligned}$$

⑩ $9\frac{1}{4}$

sol -
$$\begin{aligned} &= \frac{9 \times 4 + 1}{4} \\ &= \frac{36+1}{4} \\ &= \frac{37}{4} \text{ Ans.} \end{aligned}$$

⑪ $8\frac{7}{10}$

sol -
$$\begin{aligned} &= \frac{8 \times 10 + 7}{10} \\ &= \frac{80+7}{10} = \frac{87}{10} \text{ Ans.} \end{aligned}$$

⑫ $20\frac{1}{5}$

sol -
$$\begin{aligned} &= \frac{20 \times 5 + 1}{5} \\ &= \frac{100+1}{5} = \frac{101}{5} \text{ Ans.} \end{aligned}$$

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Book Work

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Exc - 7A

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Q1. (a) $\frac{1}{3}$ (b) $\frac{3}{4}$ (c) $\frac{2}{3}$ (d) $\frac{1}{2}$

Tick (✓) the fraction.

Q2 - completed in copy.

Q3 - Choose and write the like fractions

(a) $\frac{3}{7}$, $\frac{4}{7}$

(b) $\frac{4}{13}$, $\frac{6}{13}$

(c) $\frac{11}{21}$, $\frac{13}{21}$, $\frac{17}{21}$

Q4 - Proper fractions — $\frac{7}{9}$, $\frac{12}{21}$, $\frac{35}{53}$

Improper fractions — $\frac{7}{6}$, $\frac{7}{7}$, $\frac{12}{11}$

Q5 - (a) Ans — $3\frac{4}{9}$, $6\frac{2}{5}$, $7\frac{11}{12}$

(b) Ans — $12\frac{9}{13}$

(c) Ans — $5\frac{13}{14}$, $3\frac{15}{37}$

V B. maths

Exe. 7-B

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Q1, Q2 and Q3 we will do in book.

Q4 :- Change to like fractions

(a) $\frac{2}{3}$ and $\frac{3}{5}$

Sol -

The L.C.M. of 3 and 5 = 15

$$15 \div 3 = 5$$

$$15 \div 5 = 3$$

$$\frac{2 \times 5}{3 \times 5} = \frac{10}{15}$$

$$\frac{3 \times 3}{5 \times 3} = \frac{9}{15}$$

$$\text{Ans} = \frac{10}{15}, \frac{9}{15}$$

(b) $\frac{3}{4}$ and $\frac{5}{7}$

Sol -

The L.C.M. of 4 and 7 = 28

$$28 \div 4 = 7$$

$$28 \div 7 = 4$$

$$\frac{3 \times 7}{4 \times 7} = \frac{21}{28}$$

$$\frac{5 \times 4}{7 \times 4} = \frac{20}{28}$$

$$\text{Ans} = \frac{21}{28}, \frac{20}{28}$$

Q) $\frac{8}{9}$ and $\frac{6}{11}$

Sol

The L.C.M. of 9 and 11 = 99

$$99 \div 9 = 11$$

$$99 \div 11 = 9$$

$$\frac{8 \times 11}{9 \times 11} = \frac{88}{99}, \quad \frac{6 \times 9}{11 \times 9} = \frac{54}{99}$$

$$\text{Ans} = \frac{88}{99}, \quad \frac{54}{99}$$

Q) $\frac{4}{13}$ and $\frac{5}{9}$

Sol →

The L.C.M. of 13 and 9 = 117

$$117 \div 13 = 9$$

$$117 \div 9 = 13$$

$$\frac{4 \times 9}{13 \times 9} = \frac{36}{117}, \quad \frac{5 \times 13}{9 \times 13} = \frac{65}{117}$$

$$\text{Ans} = \frac{36}{117}, \quad \frac{65}{117}$$

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(3)

$$\textcircled{c} \quad \frac{4}{15}, \frac{5}{12}$$

Sol →

The L.C.M. of 15 and 12 = 60

$$60 \div 15 = 4$$

$$60 \div 12 = 5$$

$$\frac{4 \times 4}{15 \times 4} = \frac{16}{60}$$

$$\frac{5 \times 5}{12 \times 5} = \frac{25}{60}$$

$$\text{Ans} = \frac{16}{60}, \frac{25}{60}$$

$$\textcircled{d} \quad \frac{7}{8} \text{ and } \frac{7}{16}$$

Sol →

The L.C.M. of 8 and 16 = 16

$$16 \div 8 = 2$$

$$16 \div 16 = 1$$

$$\frac{7 \times 2}{8 \times 2} = \frac{14}{16}$$

$$\frac{7 \times 1}{16 \times 1} = \frac{7}{16}$$

$$\text{Ans} = \frac{14}{16}, \frac{7}{16}$$

V-B, MATHS

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Exc- 7-B

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Q5 - Are the fractions equivalent?

(a) $\frac{5}{6}$, $\frac{15}{12}$

Sol -

$$\frac{5}{6} \times \frac{15}{12}$$

$5 \times 12 = 60$, $6 \times 15 = 90$
No, $\frac{5}{6}$ and $\frac{15}{12}$ are
not equivalent.

(b) $\frac{3}{4}$, $\frac{12}{16}$

Sol -

$$\frac{3}{4} \times \frac{12}{16}$$

$3 \times 16 = 48$, $4 \times 12 = 48$
Yes, $\frac{3}{4}$ and $\frac{12}{16}$ are
equivalent.

(c) $\frac{30}{75}$, $\frac{2}{5}$

Sol -

$$\frac{30}{75} \times \frac{2}{5}$$

$30 \times 5 = 150$, $75 \times 2 = 150$
Yes, $\frac{30}{75}$ and $\frac{2}{5}$ are
equivalent.

(d) $\frac{39}{49}$, $\frac{3}{7}$

Sol -

$$\frac{39}{49} \times \frac{3}{7}$$

$39 \times 7 = 273$, $49 \times 3 = 147$
No, $\frac{39}{49}$ and $\frac{3}{7}$ are
not equivalent.

(e) $\frac{19}{38}$, $\frac{1}{2}$

Sol -

$$\frac{19}{38} \times \frac{1}{2}$$

$19 \times 2 = 38$, $38 \times 1 = 38$
Yes, $\frac{19}{38}$ and $\frac{1}{2}$ are
equivalent.

(f) $\frac{32}{40}$, $\frac{4}{5}$

$$\frac{32}{40} \times \frac{4}{5}$$

$32 \times 5 = 160$, $40 \times 4 = 160$
Yes, $\frac{32}{40}$ and $\frac{4}{5}$ are
equivalent.

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Exc - 7-B

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Q9. Write in descending order.

(a) $\frac{2}{9}, \frac{8}{9}, \frac{6}{9}, \frac{7}{9}, 1\frac{4}{9}$

Sol -

$1\frac{4}{9}, \frac{8}{9}, \frac{7}{9}, \frac{6}{9}, \frac{2}{9}$

(b) $\frac{15}{13}, \frac{15}{17}, \frac{15}{19}, \frac{15}{21}, \frac{15}{16}$

Sol -

$\frac{15}{13}, \frac{15}{16}, \frac{15}{17}, \frac{15}{19}, \frac{15}{21}$

(c) $\frac{11}{17}, 3\frac{1}{17}, \frac{19}{17}, 2\frac{2}{17}, \frac{65}{17}$

Sol -

$\frac{65}{17}, 3\frac{1}{17}, 2\frac{2}{17}, \frac{19}{17}, \frac{11}{17}$

Q10. Write in ascending order.

(a) $\frac{6}{7}, \frac{5}{7}, \frac{4}{7}, 2\frac{3}{7}, \frac{15}{7}$

Sol -

$\frac{4}{7}, \frac{5}{7}, \frac{6}{7}, \frac{15}{7}, 2\frac{3}{7}$

(b) $\frac{14}{21}, \frac{17}{21}, \frac{12}{21}, \frac{22}{21}, 1\frac{2}{21}$

Sol -

$\frac{12}{21}, \frac{14}{21}, \frac{17}{21}, \frac{22}{21}, 1\frac{2}{21}$

Q10 (c) $\frac{5}{12}, \frac{5}{11}, \frac{5}{9}, \frac{5}{13}, \frac{5}{10}$

Sol — $\frac{5}{13}, \frac{5}{12}, \frac{5}{11}, \frac{5}{10}, \frac{5}{9}$

Q11- Arrange in ascending order.

(a) $\frac{2}{3}, \frac{5}{6}, \frac{7}{9}$

Sol — First we will change to like fractions.

The L.C.M. of 3, 6 and 9 = 18

$$18 \div 3 = 6$$

$$18 \div 6 = 3$$

$$18 \div 9 = 2$$

$$\frac{2 \times 6}{3 \times 6} = \frac{12}{18}, \quad \frac{5 \times 3}{6 \times 3} = \frac{15}{18}, \quad \frac{7 \times 2}{9 \times 2} = \frac{14}{18}$$

Ascending order - $\frac{12}{18}, \frac{14}{18}, \frac{15}{18}$

Ans = $\frac{2}{3}, \frac{7}{9}, \frac{5}{6}$

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Q 11 (b) $\frac{5}{8}, \frac{3}{4}, \frac{7}{8}, \frac{2}{4}$

Sol —

The L.C.M. of 8, 4, 8 and 4 = 8

$$\frac{5 \times 1}{8 \times 1} = \frac{5}{8}, \frac{3 \times 2}{4 \times 2} = \frac{6}{8}, \frac{7 \times 1}{8 \times 1} = \frac{7}{8}, \frac{2 \times 2}{4 \times 2} = \frac{4}{8}$$

Ascending order: $\frac{4}{8}, \frac{5}{8}, \frac{6}{8}, \frac{7}{8}$

Ans = $\frac{2}{4}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$

Q 12 Arrange in descending order.

(a) $\frac{2}{4}, \frac{7}{8}, \frac{3}{8}$

Sol —

The L.C.M. of 4, 8 and 8 = 8

$$\frac{2 \times 2}{4 \times 2} = \frac{4}{8}, \frac{7 \times 1}{8 \times 1} = \frac{7}{8}, \frac{3 \times 1}{8 \times 1} = \frac{3}{8}$$

Descending order = $\frac{7}{8}, \frac{4}{8}, \frac{3}{8}$

Ans = $\frac{7}{8}, \frac{2}{4}, \frac{3}{8}$

(b) $\frac{2}{3}, \frac{5}{6}, \frac{8}{9}, \frac{11}{12}$

Sol —

The L.C.M. of 3, 6, 9 and 12 = 36

$$\frac{2 \times 12}{3 \times 12} = \frac{24}{36}, \frac{5 \times 6}{6 \times 6} = \frac{30}{36}, \frac{8 \times 4}{9 \times 4} = \frac{32}{36}, \frac{11 \times 3}{12 \times 3} = \frac{33}{36}$$

Q12 (b)

Descending order = $\frac{33}{36}, \frac{32}{36}, \frac{30}{36}, \frac{24}{36}$

Ans = $\frac{11}{12}, \frac{8}{9}, \frac{5}{6}, \frac{2}{3}$

Q13 (c) $\frac{17}{20}, \frac{7}{10}, \frac{3}{4}, \frac{5}{8}$

Sol -

The L.C.M. of 20, 10, 4 and 8 = 40

$$\frac{17 \times 2}{20 \times 2} = \frac{34}{40}, \quad \frac{7 \times 4}{10 \times 4} = \frac{28}{40}, \quad \frac{3 \times 10}{4 \times 10} = \frac{30}{40}, \quad \frac{5 \times 5}{8 \times 5} = \frac{25}{40}$$

Descending order = $\frac{34}{40}, \frac{30}{40}, \frac{28}{40}, \frac{25}{40}$

Ans = $\frac{17}{20}, \frac{3}{4}, \frac{7}{10}, \frac{5}{8}$

Q14 (c) $\frac{4}{5}, \frac{9}{10}, \frac{2}{5}, \frac{13}{15}$

Exc. 7-B. ~~Q11~~

Sol - The L.C.M. of 5, 10, 5 and 15 = 30

$$\frac{4 \times 6}{5 \times 6} = \frac{24}{30}, \quad \frac{9 \times 3}{10 \times 3} = \frac{27}{30}, \quad \frac{2 \times 6}{5 \times 6} = \frac{12}{30}, \quad \frac{13 \times 2}{15 \times 2} = \frac{26}{30}$$

Ascending order = $\frac{12}{30}, \frac{24}{30}, \frac{26}{30}, \frac{27}{30}$

Ans = $\frac{2}{5}, \frac{4}{5}, \frac{13}{15}, \frac{9}{10}$

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Q 13 - Reduce the fractions to lowest terms

(a) $\frac{3}{9}$

sol - $\frac{3 \div 3}{9 \div 3} = \frac{1}{3}$ Ans.

(b) $\frac{8}{18}$

sol - $\frac{8 \div 2}{18 \div 2} = \frac{4}{9}$ Ans.

(c) $\frac{21}{14}$

sol - $\frac{21 \div 7}{14 \div 7} = \frac{3}{2}$ Ans.

(d) $\frac{30}{75}$

sol - $\frac{30 \div 15}{75 \div 15} = \frac{2}{5}$ Ans.

(e) $\frac{144}{80}$

sol - $\frac{144 \div 16}{80 \div 16} = \frac{9}{5}$ Ans.

Q14 Which of these are in lowest terms

(a) $\frac{3}{11}$ (b) $\frac{5}{20}$, $\frac{25}{36}$, $\frac{40}{41}$, $\frac{72}{61}$

(a) sol $\rightarrow$ $\frac{3}{11}$ can not be reduced. So it is in lowest terms.

(b) sol $\rightarrow$ $\frac{5}{20} = \frac{1}{4}$

$\frac{5}{20}$ can be reduced. So it is not in lowest terms.

(c) sol $\rightarrow$ $\frac{25}{36}$ can not be reduced. So it is in lowest terms.

(d) sol $\rightarrow$ $\frac{40}{41}$ can not be reduced. So it is in lowest terms.

(e) sol $\rightarrow$ $\frac{72}{61}$ can not be reduced. So, it is in lowest terms.

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Exc - 7-C

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Add -

Q1(a) $\frac{2}{7} + \frac{3}{7}$

sol -

$$= \frac{2+3}{7}$$

$$= \frac{5}{7} \text{ Ans.}$$

⑤ $\frac{4}{15} + \frac{8}{15}$

Ans -

$$= \frac{4+8}{15}$$

$$= \frac{12}{15} = \frac{4}{5} \text{ Ans.}$$

⑦ $\frac{4}{13} + \frac{6}{13}$

sol $\rightarrow = \frac{4+6}{13}$

$$= \frac{10}{13} \text{ Ans.}$$

⑧ $\frac{7}{24} + \frac{5}{24}$

sol $\rightarrow = \frac{7+5}{24}$

$$= \frac{12}{24} = \frac{1}{2} \text{ Ans.}$$

Q2(a) $\frac{3}{8} + \frac{5}{8}$

sol - $= \frac{3+5}{8}$

$$= \frac{8}{8} = 1 \text{ Ans.}$$

⑥ $\frac{7}{10} + \frac{9}{10}$

sol $\rightarrow = \frac{7+9}{10}$

$$= \frac{16}{10} = \frac{8}{5}$$

$$= 1\frac{3}{5} \text{ Ans.}$$

⑨ $\frac{13}{15} + \frac{7}{15}$

sol - $= \frac{13+7}{15}$

$$= \frac{20}{15} = \frac{4}{3} = 1\frac{1}{3} \text{ Ans.}$$

⑩ $\frac{87}{100} + \frac{23}{100}$

sol $\rightarrow = \frac{87+23}{100}$

$$= \frac{110}{100} = 1\frac{1}{10} \text{ Ans.}$$

Q3 - (a) $1\frac{3}{8} + 2\frac{1}{8}$

Sol $\rightarrow$ $= \frac{11}{8} + \frac{17}{8}$

$= \frac{11+17}{8}$

$= \frac{28}{8} = \frac{7}{2}$

$= 3\frac{1}{2}$ Ans.

(b) $\frac{5}{6} + 3\frac{1}{6}$

Sol $\rightarrow$ $= \frac{5}{6} + \frac{19}{6}$

$= \frac{5+19}{6}$

$= \frac{24}{6} = 4$ Ans.

(c) $5\frac{7}{8} + \frac{3}{8}$

Sol $\rightarrow$ $= \frac{47}{8} + \frac{3}{8}$

$= \frac{47+3}{8} = \frac{50}{8}$

$= \frac{25}{4} = 6\frac{1}{4}$ Ans.

(d) $\frac{19}{80} + 4\frac{11}{80}$

Sol $\rightarrow$ $= \frac{19}{80} + \frac{331}{80}$

$= \frac{19+331}{80}$

$= \frac{350}{80} = 4\frac{3}{8}$ Ans.

Q4 - Subtract —

(a) $\frac{8}{15} - \frac{2}{15}$

Sol $\rightarrow$ $= \frac{8-2}{15}$

$= \frac{6}{15} = \frac{2}{5}$ Ans.

(b) $\frac{19}{75} - \frac{7}{75}$

Sol $\rightarrow$ $= \frac{19-7}{75}$

$= \frac{12}{75} = \frac{4}{25}$ Ans.

Q ④ (c) — $2\frac{4}{9} - \frac{7}{9}$

Sol —

$$= \frac{22}{9} - \frac{7}{9}$$

$$= \frac{22-7}{9}$$

$$= \frac{15}{9} = \frac{5}{3}$$

$$= 1\frac{2}{3} \text{ Ans}$$

Q ⑤ (b) $10\frac{5}{18} - 5\frac{7}{18}$

Sol — $\frac{185}{18} - \frac{97}{18}$

$$= \frac{185-97}{18} = \frac{88}{18}$$

$$= \frac{44}{9} = 4\frac{8}{9} \text{ Ans}$$

Q 5 Add —

Q ⑥ $\frac{4}{35} + \frac{8}{35} + \frac{3}{35}$

Sol — $= \frac{4+8+3}{35}$

$$= \frac{15}{35} = \frac{3}{7} \text{ Ans}$$

Q 5 (b) $\frac{21}{60} + \frac{17}{60} + \frac{7}{60}$

Sol — $= \frac{21+17+7}{60}$

$$= \frac{45}{60} = \frac{3}{4} \text{ Ans}$$

Q ⑥ $\frac{4}{51} + \frac{24}{51} + \frac{23}{51}$

Sol — $= \frac{4+24+23}{51}$

$$= \frac{51}{51} = 1 \text{ Ans}$$

Q 6 (a) $1\frac{4}{35} + 2\frac{8}{35} + 3\frac{3}{35}$

Sol — $= \frac{39}{35} + \frac{78}{35} + \frac{103}{35}$

$$= \frac{39+78+108}{35}$$

$$= \frac{225}{35} = 6\frac{45}{7}$$

$$= \frac{45}{7} = 6\frac{3}{7} \text{ Ans}$$

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Q6 (b) $3\frac{2}{27} + 1\frac{5}{27} + \frac{20}{27}$

Sol $\rightarrow \frac{83}{27} + \frac{32}{27} + \frac{20}{27}$

$= \frac{83+32+20}{27}$

$= \frac{135}{27} = 5 \text{ Ans.}$

Q7 $10\frac{1}{70} + \frac{48}{70} + \frac{9}{70}$

Sol $\rightarrow = \frac{701}{70} + \frac{48}{70} + \frac{9}{70}$

$= \frac{701+48+9}{70}$

$= \frac{758}{70}$

$= 10\frac{379}{35}$

$= \frac{379}{35}$

$= 10\frac{29}{35} \text{ Ans.}$

Q1- Convert into like fractions and add.

(a) $\frac{1}{3} + \frac{1}{4}$

Sol- The L.C.M. of 3 and 4 = 12

$$12 \div 3 = 4$$

$$12 \div 4 = 3$$

$$= \frac{1 \times 4 + 1 \times 3}{12}$$

$$= \frac{4 + 3}{12}$$

$$= \frac{7}{12} \text{ Ans.}$$

(b) $\frac{1}{4} + \frac{3}{8}$

Sol- The L.C.M. of 4 and 8 = 8

$$8 \div 4 = 2$$

$$8 \div 8 = 1$$

$$= \frac{1 \times 2 + 3 \times 1}{8}$$

$$= \frac{2 + 3}{8} = \frac{5}{8} \text{ Ans.}$$

(c) $\frac{4}{9} + \frac{1}{3}$

Sol- The L.C.M. of 9 and 3 = 9

$$9 \div 9 = 1$$

$$9 \div 3 = 3$$

$$= \frac{4 \times 1 + 1 \times 3}{9}$$

"You can't cross the sea merely by standing and staring at the water." - Rabindranath Tagor

$$= \frac{4 + 3}{9}$$

$$= \frac{7}{9} \text{ Ans.}$$

(2)

$$(d) \quad \frac{5}{12} + \frac{19}{6}$$

Sol — The L.C.M. of 12 and 6 = 12

$$12 \div 12 = 1$$

$$12 \div 6 = 2$$

$$= \frac{5 \times 1 + 19 \times 2}{12}$$

$$= \frac{5 + 38}{12} = \frac{43}{12} \text{ Ans.}$$

$$(e) \quad \frac{7}{6} + \frac{14}{9}$$

Sol — The L.C.M. of 6 and 9 = 18

$$18 \div 6 = 3$$

$$18 \div 9 = 2$$

$$= \frac{7 \times 3 + 14 \times 2}{18}$$

$$= \frac{21 + 28}{18}$$

$$= \frac{49}{18} \text{ Ans.}$$

Q2 Add -

(a) $\frac{2}{3} + \frac{1}{6}$

Sol - The L.C.M. of 3 and 6 = 6

$$6 \div 3 = 2$$

$$6 \div 6 = 1$$

$$= \frac{2 \times 2 + 1 \times 1}{6}$$

$$= \frac{4 + 1}{6} = \frac{5}{6} \text{ Ans.}$$

(b) $\frac{3}{10} + \frac{7}{30}$

Sol - The L.C.M. of 10 and 30 = 30

$$30 \div 10 = 3$$

$$30 \div 30 = 1$$

$$= \frac{3 \times 3 + 7 \times 1}{30}$$

$$= \frac{9 + 7}{30} = \frac{16}{30} = \frac{8}{15} \text{ Ans.}$$

(c) $\frac{7}{16} + \frac{3}{8}$

Sol - The L.C.M. of 16 and 8 = 16

$$16 \div 16 = 1$$

$$16 \div 8 = 2$$

(4)

Q 2 (d) $\frac{9}{20} + \frac{2}{5}$

Sol — The L.C.M. of 20 and 5 = 20

$$20 \div 20 = 1$$

$$20 \div 5 = 4$$

$$= \frac{9 \times 1 + 2 \times 4}{20}$$

$$= \frac{9 + 8}{20} = \frac{17}{20} \text{ Ans.}$$

Q 3 (a) $\frac{1}{2} + \frac{1}{3}$

Sol — The L.C.M. of
2 and 3 = 6

$$6 \div 2 = 3$$

$$6 \div 3 = 2$$

$$= \frac{1 \times 3 + 1 \times 2}{6}$$

$$= \frac{3 + 2}{6} = \frac{5}{6} \text{ Ans.}$$

(b) $\frac{3}{5} + \frac{1}{4}$

Sol —

The L.C.M. of
5 and 4 = 20

$$20 \div 5 = 4$$

$$20 \div 4 = 5$$

$$= \frac{3 \times 4 + 1 \times 5}{20}$$

$$= \frac{12 + 5}{20}$$

$$= \frac{17}{20} \text{ Ans.}$$

(c) $\frac{3}{7} + \frac{4}{9}$

Sol —

The L.C.M. of 7 and 9 = 63

$$63 \div 7 = 9$$

$$63 \div 9 = 7$$

$$= \frac{3 \times 9 + 4 \times 7}{63} = \frac{27 + 28}{63} = \frac{55}{63} \text{ Ans.}$$

Q3 (a) $\frac{2}{3} + \frac{3}{11}$

Sol- The L.C.M. of 3 and 11 = 33

$$33 \div 3 = 11$$

$$33 \div 11 = 3$$

$$= \frac{2 \times 11 + 3 \times 3}{33}$$

$$= \frac{22 + 9}{33} = \frac{31}{33} \text{ Ans.}$$

Q4 (a) $\frac{5}{12} + \frac{2}{9}$

Sol- The L.C.M. of 12 and 9 = 36

$$36 \div 12 = 3$$

$$36 \div 9 = 4$$

$$= \frac{5 \times 3 + 2 \times 4}{36}$$

$$= \frac{15 + 8}{36} = \frac{23}{36} \text{ Ans.}$$

(b) $\frac{7}{18} + \frac{20}{27}$

Sol- The L.C.M. of 18 and 27 = 54

$$54 \div 18 = 3$$

$$54 \div 27 = 2$$

$$= \frac{7 \times 3 + 20 \times 2}{54}$$

$$= \frac{21 + 40}{54} = \frac{61}{54} \text{ Ans.}$$

6

Q 4 (C) $\frac{31}{32} + \frac{5}{48}$

Sol —

The L.C.M. of 32 and 48 = 96

$$96 \div 32 = 3$$

$$96 \div 48 = 2$$

$$= \frac{31 \times 3 + 5 \times 2}{96}$$

$$= \frac{93 + 10}{96}$$

$$= \frac{103}{96} \text{ Ans.}$$

(D) $\frac{25}{15} + \frac{4}{25}$

Sol —

The L.C.M. of 15 and 25 = 75

$$75 \div 15 = 5$$

$$75 \div 25 = 3$$

$$= \frac{25 \times 5 + 4 \times 3}{75}$$

$$= \frac{125 + 12}{75}$$

$$= \frac{137}{75} \text{ Ans.}$$

Q 5 (A) $\frac{1}{12} + \frac{1}{6} + \frac{1}{3}$

Sol —

The L.C.M. of 12, 6 and 3 = 12

$$12 \div 12 = 1$$

$$12 \div 6 = 2$$

$$12 \div 3 = 4$$

$$= \frac{1 \times 1 + 1 \times 2 + 1 \times 4}{12}$$

$$= \frac{1 + 2 + 4}{12}$$

$$= \frac{7}{12} \text{ Ans.}$$

"You have to take the calculated risk, to earn something." — Dhruv Ambani

(7)

Q5b) $\frac{2}{3} + \frac{1}{12} + \frac{5}{36}$

Sol- The L.C.M. of 3, 12 and 36 = 36

$$36 \div 3 = 12$$

$$36 \div 12 = 3$$

$$36 \div 36 = 1$$

$$= \frac{2 \times 12 + 1 \times 3 + 5 \times 1}{36}$$

$$= \frac{24 + 3 + 5}{36} = \frac{32}{36} = \frac{8}{9} \text{ Ans.}$$

Q6) $\frac{2}{5} + \frac{3}{10} + \frac{7}{5}$

Sol- The L.C.M. of 5, 10 and 5 = 10

$$10 \div 5 = 2$$

$$10 \div 10 = 1$$

$$10 \div 5 = 2$$

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

$$= \frac{4 + 3 + 14}{10} = \frac{21}{10} \text{ Ans.}$$

Q7) $\frac{1}{20} + \frac{3}{10} + \frac{2}{5}$

Sol- The L.C.M. of 20, 10 and 5 = 20

$$20 \div 20 = 1$$

$$20 \div 10 = 2$$

$$20 \div 5 = 4$$

$$= \frac{1 \times 1 + 3 \times 2 + 2 \times 4}{20}$$

$$= \frac{1 + 6 + 8}{20} = \frac{15}{20} = \frac{3}{4} \text{ Ans.}$$

"You can't cross the sea merely by standing and staring at the water." - Rabindranath Tagor

Q6② $\frac{1}{4} + \frac{1}{6} + \frac{3}{8}$

Sol -

The L.C.M. of 4, 6 and 8 = 24

$$24 \div 4 = 6$$

$$24 \div 6 = 4$$

$$24 \div 8 = 3$$

$$= \frac{1 \times 6 + 1 \times 4 + 3 \times 3}{24}$$

$$= \frac{6 + 4 + 9}{24} = \frac{19}{24} \text{ Ans.}$$

Q6③ $\frac{2}{5} + \frac{3}{10} + \frac{1}{15}$

Sol -

The L.C.M. of 5, 10 and 15 = 30

$$30 \div 5 = 6$$

$$30 \div 10 = 3$$

$$30 \div 15 = 2$$

$$= \frac{2 \times 6 + 3 \times 3 + 1 \times 2}{30}$$

$$= \frac{12 + 9 + 2}{30} = \frac{23}{30} \text{ Ans.}$$

Q6④ $\frac{2}{9} + \frac{5}{24} + \frac{1}{36}$

Sol -

The L.C.M. of 9, 24 and 36 = 72

$$72 \div 9 = 8$$

$$72 \div 24 = 3$$

$$72 \div 36 = 2$$

$$= \frac{2 \times 8 + 5 \times 3 + 1 \times 2}{72} = \frac{16 + 15 + 2}{72} = \frac{33}{72} = \frac{11}{24} \text{ Ans.}$$

Q6 (b) $\frac{19}{16} + \frac{5}{8} + \frac{5}{24}$

Sol- The L.C.M. of 16, 8 and 24 = 48

$$48 \div 16 = 3$$

$$48 \div 8 = 6$$

$$48 \div 24 = 2$$

$$= \frac{19 \times 3 + 5 \times 6 + 5 \times 2}{48}$$

$$= \frac{57 + 30 + 10}{48} = \frac{97}{48} \text{ Ans.}$$

Q7- Fill in

(a) $1 + \frac{2}{7}$

Sol- $\frac{1}{1} + \frac{2}{7}$

$$= \frac{1 \times 7 + 2 \times 1}{7}$$

$$= \frac{7 + 2}{7} = \frac{9}{7} = 1\frac{2}{7} \text{ Ans.}$$

(c) $4 + \frac{3}{2}$

Sol- $\frac{4}{1} + \frac{3}{2}$

$$= \frac{4 \times 2 + 3 \times 1}{2}$$

$$= \frac{8 + 3}{2} = \frac{11}{2} = 5\frac{1}{2} \text{ Ans.}$$

(b) $3 + \frac{1}{4}$

Sol-

$$\frac{3}{1} + \frac{1}{4}$$

$$= \frac{3 \times 4 + 1 \times 1}{4}$$

$$= \frac{12 + 1}{4}$$

$$= \frac{13}{4} = 3\frac{1}{4} \text{ Ans.}$$

Q7. (b) $6 + \frac{6}{5}$

Sol - $\frac{6}{1} + \frac{6}{5}$

$$= \frac{6 \times 5 + 6 \times 1}{5}$$

$$= \frac{30 + 6}{5}$$

$$= \frac{36}{5} = 7\frac{1}{5} \text{ Ans.}$$

Q8 Add - $\frac{11}{12} + \frac{13}{24}$

Sol - $= \frac{11 \times 2 + 13 \times 1}{24}$

$$= \frac{22 + 13}{24}$$

$$= \frac{35}{24} = 1\frac{11}{24} \text{ Ans.}$$

Q9 - $\frac{23}{60} + \frac{2}{15}$

Sol - $\frac{23 \times 1 + 2 \times 4}{60}$

$$= \frac{23 + 8}{60}$$

$$= \frac{31}{60} \text{ Ans.}$$

Q10 - $\frac{4}{11} + \frac{5}{12}$

Sol - $= \frac{4 \times 12 + 5 \times 11}{132}$

$$= \frac{48 + 55}{132}$$

$$= \frac{103}{132} \text{ Ans.}$$

Q11 - $\frac{11}{30} + \frac{8}{48}$

Sol - $= \frac{11 \times 8 + 8 \times 5}{240}$

$$= \frac{88 + 40}{240}$$

$$= \frac{128 \div 16}{240 \div 16}$$

$$= \frac{8}{15} \text{ Ans.}$$

$$Q12 - \frac{1}{2} + \frac{2}{3} + \frac{4}{5}$$

$$\text{Sol} - = \frac{1 \times 15 + 2 \times 10 + 4 \times 6}{30}$$

$$= \frac{15 + 20 + 24}{30}$$

$$= \frac{59}{30} = 1\frac{29}{30} \text{ Ans.}$$

$$Q13 - \frac{4}{9} + \frac{5}{18} + \frac{7}{36}$$

$$\text{Sol} - = \frac{4 \times 4 + 5 \times 2 + 7 \times 1}{36}$$

$$= \frac{16 + 10 + 7}{36}$$

$$= \frac{33}{36} = \frac{11}{12}$$

$$= \frac{11}{12} \text{ Ans.}$$

$$Q14 - \frac{1}{12} + \frac{33}{15} + \frac{17}{10}$$

$$\text{Sol} - = \frac{1 \times 5 + 33 \times 4 + 17 \times 6}{60}$$

$$= \frac{5 + 132 + 102}{60}$$

$$= \frac{239}{60}$$

$$= 3\frac{59}{60} \text{ Ans.}$$

Add -

Q1- (a) $3\frac{1}{2} + \frac{1}{2}$

Sol - $\frac{7}{2} + \frac{1}{2}$

$$= \frac{7+1}{2} = \frac{8}{2} = 4 \text{ Ans.}$$

(b) $4\frac{1}{2} + 1\frac{3}{4}$

Sol - $\frac{9}{2} + \frac{7}{4}$

$$= \frac{9 \times 2 + 7 \times 1}{4}$$

$$= \frac{18 + 7}{4}$$

$$= \frac{25}{4} = 6\frac{1}{4} \text{ Ans.}$$

(c) $6\frac{3}{7} + \frac{4}{7}$

Sol - $\frac{45}{7} + \frac{4}{7}$

$$= \frac{45+4}{7}$$

$$= \frac{49}{7} = 7 \text{ Ans.}$$

(d) $2\frac{5}{8} + 1\frac{5}{16}$

Sol - $\frac{21}{8} + \frac{21}{16}$

$$= \frac{21 \times 2 + 21 \times 1}{16}$$

$$= \frac{42 + 21}{16}$$

$$= \frac{63}{16} = 3\frac{15}{16} \text{ Ans.}$$

Q2 (a) $\frac{5}{12} + 5\frac{7}{16}$

Sol - $\frac{5}{12} + \frac{87}{16}$

$$= \frac{5 \times 4 + 87 \times 3}{48}$$

$$= \frac{20 + 261}{48}$$

$$= \frac{281}{48}$$

$$= 5\frac{41}{48} \text{ Ans.}$$

Q2 (b) $4\frac{5}{8} + 3\frac{7}{12}$

Sol -

$$= \frac{37}{8} + \frac{43}{12}$$

$$= \frac{37 \times 3 + 43 \times 2}{24}$$

$$= \frac{111 + 86}{24}$$

$$= \frac{197}{24} = 8\frac{5}{24} \text{ Ans.}$$

Q3 (a) $3\frac{9}{20} + 4\frac{2}{15}$

Sol - $= \frac{69}{20} + \frac{62}{15}$

$$= \frac{69 \times 3 + 62 \times 4}{60}$$

$$= \frac{207 + 248}{60}$$

$$= \frac{455}{60}$$

$$= \frac{91}{12} = 7\frac{7}{12} \text{ Ans.}$$

Q2 (d) $1\frac{7}{12} + 2\frac{7}{18}$

Sol - $= \frac{19}{12} + \frac{43}{18}$

$$= \frac{19 \times 3 + 43 \times 2}{36}$$

$$= \frac{57 + 86}{36}$$

$$= \frac{143}{36} = 3\frac{35}{36}$$

Q3 (b) $3 + \frac{3}{4} + 2\frac{5}{8}$

Sol -

$$= \frac{3}{1} + \frac{3}{4} + \frac{21}{8}$$

$$= \frac{3 \times 8 + 3 \times 2 + 21 \times 1}{8}$$

$$= \frac{24 + 6 + 21}{8}$$

$$= \frac{51}{8}$$

$$= 6\frac{3}{8} \text{ Ans.}$$

Q3 (b) $5 + 3\frac{2}{3} + 2\frac{1}{9}$

Sol $\rightarrow = \frac{5}{1} + \frac{11}{3} + \frac{19}{9}$

$= \frac{5 \times 9 + 11 \times 3 + 19 \times 1}{9}$

$= \frac{45 + 33 + 19}{9}$

$= \frac{97}{9} = 10\frac{7}{9} \text{ Ans.}$

(c) $\frac{14}{9} + 1\frac{4}{9} + \frac{25}{18}$

Sol $\rightarrow = \frac{14}{9} + \frac{13}{9} + \frac{25}{18}$

$= \frac{14 \times 2 + 13 \times 2 + 25 \times 1}{18}$

$= \frac{28 + 26 + 25}{18}$

$= \frac{79}{18}$

$= 4\frac{7}{18} \text{ Ans.}$

(d) $1\frac{1}{7} + 2\frac{1}{14} + 3\frac{1}{28}$

Sol $\rightarrow$

$= \frac{8}{7} + \frac{29}{14} + \frac{85}{28}$

$= \frac{8 \times 4 + 29 \times 2 + 85 \times 1}{28}$

$= \frac{32 + 58 + 85}{28}$

$= \frac{175}{28} = 6\frac{1}{4}$

$= \frac{25}{4} = 6\frac{1}{4} \text{ Ans.}$

Q4- $5\frac{3}{8} + 2\frac{5}{8}$

Sol $\rightarrow$

$= \frac{43}{8} + \frac{21}{8}$

$= \frac{43 + 21}{8}$

$= \frac{64}{8} = 8 \text{ Ans.}$

$$Q5 - 3\frac{2}{5} + 1\frac{3}{10}$$

$$\text{Sol} \rightarrow \frac{17}{5} + \frac{13}{10}$$

$$= \frac{17 \times 2 + 13 \times 1}{10}$$

$$= \frac{34 + 13}{10}$$

$$= \frac{47}{10} = 4\frac{7}{10} \text{ Ans.}$$

$$Q6 \rightarrow 2\frac{2}{25} + 5\frac{3}{10}$$

$$\text{Sol} \rightarrow \frac{52}{25} + \frac{53}{10}$$

$$= \frac{52 \times 2 + 53 \times 5}{50}$$

$$= \frac{104 + 265}{50}$$

$$= \frac{369}{50}$$

$$= 7\frac{19}{50} \text{ Ans.}$$

$$Q7 \rightarrow \frac{7}{18} + 3\frac{1}{27}$$

$$\text{Sol} \rightarrow \frac{7}{18} + \frac{82}{27}$$

$$= \frac{7 \times 3 + 82 \times 2}{54}$$

$$= \frac{21 + 164}{54}$$

$$= \frac{185}{54} = 3\frac{23}{54} \text{ Ans.}$$

$$Q8 \rightarrow 3\frac{3}{6} + 2\frac{5}{9} + \frac{2}{1}$$

$$\text{Sol} \rightarrow \frac{21}{6} + \frac{23}{9} + \frac{2}{1}$$

$$= \frac{21 \times 3 + 23 \times 2 + 2 \times 18}{18}$$

$$= \frac{63 + 46 + 36}{18}$$

$$= \frac{145}{18} = 8\frac{1}{18} \text{ Ans.}$$

$$Q9 \rightarrow 2\frac{4}{7} + \frac{11}{8} + \frac{5}{1}$$

$$\text{Sol} \rightarrow \frac{18}{7} + \frac{11}{8} + \frac{5}{1}$$

$$= \frac{18 \times 8 + 11 \times 7 + 5 \times 56}{56}$$

$$= \frac{144 + 77 + 280}{56}$$

$$= \frac{501}{56} = 8\frac{53}{56} \text{ Ans.}$$

Exc- 7-F

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Q1- Convert into like fractions and subtract -

a) $\frac{3}{4} - \frac{1}{2}$

Sol $\rightarrow \frac{3 \times 1 - 1 \times 2}{4}$
 $= \frac{3 - 2}{4} = \frac{1}{4} \text{ Ans.}$

b) $\frac{7}{9} - \frac{1}{3}$

Sol $\rightarrow \frac{7 \times 1 - 1 \times 3}{9}$
 $= \frac{7 - 3}{9} = \frac{4}{9} \text{ Ans.}$

c) $\frac{13}{12} - \frac{2}{9}$

Sol $\rightarrow \frac{13 \times 3 - 2 \times 4}{36}$
 $= \frac{39 - 8}{36} = \frac{31}{36} \text{ Ans.}$

d) $3\frac{1}{5} - 1\frac{7}{10}$

Sol $\rightarrow \frac{16}{5} - \frac{17}{10}$
 $= \frac{16 \times 2 - 17 \times 1}{10}$
 $= \frac{32 - 17}{10} = \frac{15}{10} = \frac{3}{2} \text{ Ans.}$

e) $6\frac{1}{2} - 3\frac{7}{15}$

Sol $\rightarrow \frac{73}{12} - \frac{52}{15}$
 $= \frac{73 \times 5 - 52 \times 4}{60}$
 $= \frac{365 - 208}{60}$
 $= \frac{157}{60} = 2\frac{37}{60} \text{ Ans.}$

Q2 a) $\frac{15}{16} - \frac{3}{8}$

Sol $\rightarrow \frac{15 \times 1 - 3 \times 2}{16}$
 $= \frac{15 - 6}{16} = \frac{9}{16} \text{ Ans.}$

b) $\frac{21}{40} - \frac{1}{8}$

Sol $\rightarrow \frac{21 \times 1 - 1 \times 5}{40}$
 $= \frac{21 - 5}{40} = \frac{16}{40}$
 $= \frac{2}{5} \text{ Ans.}$

$$Q2 \textcircled{a} \quad \frac{13}{16} - \frac{9}{32}$$

$$\begin{aligned} \text{Sol -} &= \frac{13 \times 2 - 9 \times 1}{32} \\ &= \frac{26 - 9}{32} = \frac{17}{32} \text{ Ans.} \end{aligned}$$

$$Q3 \textcircled{a} \quad \frac{5}{6} - \frac{2}{9}$$

$$\begin{aligned} \text{Sol -} &= \frac{5 \times 3 - 2 \times 2}{18} \\ &= \frac{15 - 4}{18} = \frac{11}{18} \text{ Ans.} \end{aligned}$$

$$\textcircled{b} \quad \frac{11}{12} - \frac{7}{15}$$

$$\begin{aligned} \text{Sol -} &= \frac{11 \times 5 - 7 \times 4}{60} \\ &= \frac{55 - 28}{60} = \frac{27}{60} \\ &= \frac{9}{20} \text{ Ans.} \end{aligned}$$

$$\textcircled{c} \quad \frac{11}{18} - \frac{10}{27}$$

$$\begin{aligned} \text{Sol -} &= \frac{11 \times 3 - 10 \times 2}{54} \\ &= \frac{33 - 20}{54} \\ &= \frac{13}{54} \text{ Ans.} \end{aligned}$$

$$Q4 \textcircled{a} \quad 4 - \frac{3}{7}$$

$$\begin{aligned} \text{Sol -} &= \frac{4}{1} - \frac{3}{7} \\ &= \frac{4 \times 7 - 3 \times 1}{7} \\ &= \frac{28 - 3}{7} = \frac{25}{7} = 3\frac{4}{7} \text{ Ans.} \end{aligned}$$

$$\textcircled{b} \quad 1 - \frac{2}{9}$$

$$\begin{aligned} \text{Sol -} &= \frac{1}{1} - \frac{2}{9} \\ &= \frac{1 \times 9 - 2 \times 1}{9} \\ &= \frac{9 - 2}{9} = \frac{7}{9} \text{ Ans.} \end{aligned}$$

$$\textcircled{c} \quad 7 - \frac{13}{25}$$

$$\begin{aligned} \text{Sol -} &= \frac{7}{1} - \frac{13}{25} \\ &= \frac{7 \times 25 - 13 \times 1}{25} \\ &= \frac{175 - 13}{25} \\ &= \frac{162}{25} \\ &= 6\frac{12}{25} \text{ Ans.} \end{aligned}$$

Q5 (a) $5\frac{1}{2} - \frac{3}{4}$

Sol - $= \frac{11}{2} - \frac{3}{4}$

$$= \frac{11 \times 2 - 3 \times 1}{4}$$

$$= \frac{22 - 3}{4} = \frac{19}{4} = 4\frac{3}{4} \text{ Ans.}$$

(b) $3\frac{4}{15} - \frac{7}{5}$

Sol -

$$= \frac{49}{15} - \frac{7}{5}$$

$$= \frac{49 \times 1 - 7 \times 3}{15}$$

$$= \frac{49 - 21}{15} = \frac{28}{15} = 1\frac{13}{15} \text{ Ans.}$$

(c) $1\frac{5}{14} - \frac{19}{21}$

Sol - $= \frac{19}{14} - \frac{19}{21}$

$$= \frac{19 \times 3 - 19 \times 2}{42}$$

$$= \frac{57 - 38}{42}$$

$$= \frac{19}{42} \text{ Ans.}$$

Q6 (a) $8\frac{3}{10} - 4\frac{4}{5}$

Sol - $= \frac{83}{10} - \frac{24}{5}$

$$= \frac{83 \times 1 - 24 \times 2}{10}$$

$$= \frac{83 - 48}{10}$$

$$= \frac{35}{10} = 3\frac{1}{2} \text{ Ans.}$$

(b) $9\frac{4}{9} - 6\frac{2}{3}$

Sol - $= \frac{85}{9} - \frac{20}{3}$

$$= \frac{85 \times 1 - 20 \times 3}{9}$$

$$= \frac{85 - 60}{9}$$

$$= \frac{25}{9} = 2\frac{7}{9} \text{ Ans.}$$

(c) $3\frac{16}{21} - 2\frac{9}{24}$

Sol - $= \frac{79}{21} - \frac{57}{24}$

$$= \frac{79 \times 8 - 57 \times 7}{168}$$

$$= \frac{632 - 399}{168}$$

$$= \frac{233}{168} = 1\frac{65}{168} \text{ Ans.}$$

Q7@ $5 - 3\frac{3}{4}$

Sol - $= \frac{5}{1} - \frac{15}{4}$

$$= \frac{5 \times 4 - 15 \times 1}{4}$$

$$= \frac{20 - 15}{4} = \frac{5}{4} = 1\frac{1}{4} \text{ Ans.}$$

Q8@ $10 - 4\frac{2}{15}$

Sol - $= \frac{10}{1} - \frac{62}{15}$

$$= \frac{10 \times 15 - 62 \times 1}{15}$$

$$= \frac{150 - 62}{15} = \frac{88}{15} = 5\frac{13}{15} \text{ Ans.}$$

Q9@ $13\frac{3}{8} - \frac{8}{1}$

Sol - $= \frac{107}{8} - \frac{8}{1}$

$$= \frac{107 \times 1 - 8 \times 8}{8}$$

$$= \frac{107 - 64}{8}$$

$$= \frac{43}{8} = 5\frac{3}{8} \text{ Ans.}$$

Fill in the blanks-

Q8@ $\frac{3}{8} + \underline{\hspace{2cm}} = \frac{15}{16}$

Sol - $= \frac{15}{16} - \frac{3}{8}$

$$= \frac{15 \times 1 - 3 \times 2}{16}$$

$$= \frac{15 - 6}{16} = \frac{9}{16} \text{ Ans.}$$

Q9@ $\frac{18}{25} + \underline{\hspace{2cm}} = \frac{14}{15}$

Sol - $= \frac{14}{15} - \frac{18}{25}$

$$= \frac{14 \times 5 - 18 \times 3}{75}$$

$$= \frac{70 - 54}{75} = \frac{16}{75} \text{ Ans.}$$

Q10@ $\frac{5}{12} + \underline{\hspace{2cm}} = 2$

Sol - $= \frac{2}{1} - \frac{5}{12}$

$$= \frac{2 \times 12 - 5 \times 1}{12}$$

$$= \frac{24 - 5}{12} = \frac{19}{12}$$

$$= 1\frac{7}{12} \text{ Ans.}$$

$$29 \text{ (a)} \quad \underline{\hspace{2cm}} + 2\frac{1}{3} = 3\frac{1}{2}$$

$$\text{Sol} \rightarrow = \frac{7}{2} - \frac{7}{3}$$

$$= \frac{7 \times 3 - 7 \times 2}{6}$$

$$= \frac{21 - 14}{6} = \frac{7}{6} = 1\frac{1}{6} \text{ Ans.}$$

$$(5) \quad \underline{\hspace{2cm}} + \frac{12}{25} = 1\frac{3}{10}$$

$$\text{Sol} \rightarrow = \frac{13}{10} - \frac{12}{25}$$

$$= \frac{13 \times 5 - 12 \times 2}{50}$$

$$= \frac{65 - 24}{50} = \frac{41}{50} \text{ Ans.}$$

$$(c) \quad \underline{\hspace{2cm}} + 4 = 5\frac{1}{4}$$

$$\text{Sol} \rightarrow = \frac{21}{4} - \frac{4}{1}$$

$$= \frac{21 - 4 \times 4}{4}$$

$$= \frac{21 - 16}{4}$$

$$= \frac{5}{4} = 1\frac{1}{4} \text{ Ans.}$$

$$210 \text{ (a)} \quad \frac{17}{20} - \underline{\hspace{2cm}} = \frac{3}{10}$$

$$\text{Sol} \rightarrow = \frac{17}{20} - \frac{3}{10}$$

$$= \frac{17 \times 1 - 3 \times 2}{20}$$

$$= \frac{17 - 6}{20} = \frac{11}{20} \text{ Ans.}$$

$$(b) \quad 3\frac{9}{50} - \underline{\hspace{2cm}} = 1\frac{7}{20}$$

$$\text{Sol} \rightarrow = \frac{159}{50} - \frac{27}{20}$$

$$= \frac{159 \times 2 - 27 \times 5}{100}$$

$$= \frac{318 - 135}{100}$$

$$= \frac{183}{100} = 1\frac{83}{100} \text{ Ans.}$$

$$(c) \quad 5\frac{1}{4} - \underline{\hspace{2cm}} = 2\frac{5}{6}$$

$$\text{Sol} \rightarrow = \frac{21}{4} - \frac{17}{6}$$

$$= \frac{21 \times 3 - 17 \times 2}{12}$$

$$= \frac{63 - 34}{12} = \frac{29}{12}$$

$$= 2\frac{5}{12} \text{ Ans.}$$

$$Q11! \textcircled{a} \quad \underline{\hspace{2cm}} - \frac{3}{4} = 5\frac{1}{4}$$

$$\text{Sol} - 5\frac{1}{4} + \frac{3}{4}$$

$$= \frac{21}{4} + \frac{3}{4}$$

$$= \frac{21+3}{4} = \frac{24}{4} = 6 \text{ Ans.}$$

$$\textcircled{b} \quad \underline{\hspace{2cm}} - 1\frac{3}{16} = 2\frac{5}{8}$$

$$\text{Sol} - \frac{21}{8} + \frac{19}{16}$$

$$= \frac{21 \times 2 + 19 \times 1}{16}$$

$$= \frac{42 + 19}{16} = \frac{61}{16} = 3\frac{13}{16} \text{ Ans.}$$

$$\textcircled{c} \quad \underline{\hspace{2cm}} - 3\frac{2}{21} = 1\frac{15}{28}$$

$$\text{Sol} - \frac{43}{28} + \frac{65}{21}$$

$$= \frac{43 \times 3 + 65 \times 4}{84}$$

$$= \frac{129 + 260}{84}$$

$$= \frac{389}{84} = 4\frac{53}{84} \text{ Ans.}$$

$$Q12! \quad \frac{13}{15} - \frac{32}{75}$$

Sol -

$$= \frac{13 \times 5 - 32 \times 1}{75}$$

$$= \frac{65 - 32}{75}$$

$$= \frac{33}{75}$$

$$= \frac{11}{25} \text{ Ans.}$$

$$Q13! - \frac{13}{24} - \frac{11}{36}$$

Sol -

$$= \frac{13 \times 3 - 11 \times 2}{72}$$

$$= \frac{39 - 22}{72}$$

$$= \frac{17}{72} \text{ Ans.}$$

$$Q14 \rightarrow 8 - \frac{3}{10}$$

$$\text{Sol} \rightarrow = \frac{8}{1} - \frac{3}{10}$$

$$= \frac{8 \times 10 - 3 \times 1}{10}$$

$$= \frac{80 - 3}{10}$$

$$= \frac{77}{10} = 7\frac{7}{10} \text{ Ans.}$$

$$Q15 \rightarrow 7\frac{7}{12} - \frac{8}{9}$$

$$\text{Sol} \rightarrow = \frac{91}{12} - \frac{8}{9}$$

$$= \frac{91 \times 3 - 8 \times 4}{36}$$

$$= \frac{273 - 32}{36}$$

$$= \frac{241}{36} = 6\frac{25}{36} \text{ Ans.}$$

$$Q16 \rightarrow 5\frac{13}{18} - 5\frac{4}{27}$$

Sol -

$$= \frac{103}{18} - \frac{139}{27}$$

$$= \frac{103 \times 3 - 139 \times 2}{54}$$

$$= \frac{309 - 278}{54}$$

$$= \frac{31}{54} \text{ Ans.}$$

$$Q17 \rightarrow 21\frac{9}{10} - 16$$

$$\text{Sol} \rightarrow = \frac{219}{10} - \frac{16}{1}$$

$$= \frac{219 - 16 \times 10}{10}$$

$$= \frac{219 - 160}{10}$$

$$= \frac{59}{10}$$

$$= 5\frac{9}{10} \text{ Ans.}$$

Simplify

Q1① $\frac{3}{7} + \frac{5}{7} - \frac{4}{7}$

Sol $\rightarrow \frac{3+5-4}{7}$
 $= \frac{8-4}{7} = \frac{4}{7}$ Ans.

② $\frac{3}{1} + \frac{7}{15} - \frac{2}{15}$

Sol $\rightarrow \frac{3 \times 15 + 7 - 2}{15}$
 $= \frac{45 + 7 - 2}{15}$

$= \frac{52-2}{15} = \frac{50}{15} = 3\frac{1}{3}$ Ans.

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

Sol $\rightarrow \frac{43}{12} + \frac{19}{12} - \frac{5}{12}$
 $= \frac{43+19-5}{12}$
 $= \frac{62-5}{12}$
 $= \frac{57}{12} = 4\frac{3}{4}$ Ans

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

Sol $\rightarrow \frac{31}{4} + \frac{9}{4} - \frac{4}{1}$
 $= \frac{31+9-4 \times 4}{4}$
 $= \frac{31+9-16}{4}$
 $= \frac{40-16}{4} = \frac{24}{4}$
 $= 6$ Ans.

Q2① $5 - \frac{1}{6} + 2\frac{1}{3}$

Sol $\rightarrow \frac{5}{1} - \frac{1}{6} + \frac{7}{3}$
 $= \frac{5 \times 6 - 1 \times 1 + 7 \times 2}{6}$
 $= \frac{30 - 1 + 14}{6}$
 $= \frac{44-1}{6} = \frac{43}{6}$
 $= 7\frac{1}{6}$ Ans.

$$Q26) 4\frac{5}{21} - 5\frac{1}{14} + \frac{2}{1}$$

$$\text{Sol-} = \frac{89}{21} - \frac{71}{14} + \frac{2}{1}$$

$$= \frac{89 \times 2 - 71 \times 3 + 2 \times 42}{42}$$

$$= \frac{178 - 213 + 84}{42}$$

$$= \frac{262 - 213}{42}$$

$$= \frac{49}{42} = 1\frac{1}{6} \text{ Ans.}$$

$$Q27) \frac{1}{2} - \frac{3}{16} + \frac{1}{4}$$

$$\text{Sol-} = \frac{1 \times 8 - 3 \times 1 + 1 \times 4}{16}$$

$$= \frac{8 - 3 + 4}{16}$$

$$= \frac{12 - 3}{16} = \frac{9}{16} \text{ Ans.}$$

$$Q28) 2\frac{2}{5} - 1\frac{3}{10} - \frac{4}{15}$$

$$\text{Sol-} = \frac{12}{5} - \frac{13}{10} - \frac{4}{15}$$

$$= \frac{12 \times 6 - 13 \times 3 - 4 \times 2}{30}$$

$$= \frac{72 - 39 - 8}{30} = \frac{25}{30}$$

$$= \frac{5}{6} \text{ Ans.}$$

$$Q29) 10 - \frac{3}{4} - \frac{5}{8}$$

$$\text{Sol-}$$

$$= \frac{10}{1} - \frac{3}{4} - \frac{5}{8}$$

$$= \frac{10 \times 8 - 3 \times 2 - 5 \times 1}{8}$$

$$= \frac{80 - 6 - 5}{8}$$

$$= \frac{80 - 11}{8} = \frac{69}{8}$$

$$= 8\frac{5}{8} \text{ Ans.}$$

$$Q30) 4\frac{6}{7} - \frac{8}{21} - \frac{1}{1}$$

$$\text{Sol-} = \frac{34}{7} - \frac{8}{21} - \frac{1}{1}$$

$$= \frac{34 \times 3 - 8 \times 1 - 1 \times 21}{21}$$

$$= \frac{102 - 8 - 21}{21}$$

$$= \frac{102 - 29}{21}$$

$$= \frac{73}{21} = 3\frac{10}{21} \text{ Ans.}$$

Q3 (a) $11\frac{1}{2} - 5\frac{1}{4} - 3\frac{1}{8}$

Sol - $= \frac{23}{2} - \frac{21}{4} - \frac{25}{8}$

$= \frac{23 \times 4 - 21 \times 2 - 25 \times 1}{8}$

$= \frac{92 - 42 - 25}{8}$

$= \frac{92 - 67}{8} = \frac{25}{8} = 3\frac{1}{8} \text{ Ans.}$

(b) $6\frac{1}{3} - 2\frac{1}{9} + 1\frac{5}{12}$

Sol - $= \frac{19}{3} - \frac{19}{9} + \frac{17}{12}$

$= \frac{19 \times 12 - 19 \times 4 + 17 \times 3}{36}$

$= \frac{228 - 76 + 51}{36}$

$= \frac{279 - 76}{36} = \frac{203}{36} = 5\frac{23}{36} \text{ Ans.}$

Q4: - Find the sum $\frac{3}{13} + 1\frac{5}{26} + 2\frac{7}{39}$ and subtract it from 8.

Sol -

$= 8 - \left(\frac{3}{13} + 1\frac{5}{26} + 2\frac{7}{39} \right)$

$= 8 - \left(\frac{3}{13} + \frac{31}{26} + \frac{85}{39} \right)$

$= 8 - \left(\frac{3 \times 6 + 31 \times 3 + 85 \times 2}{78} \right)$

$= 8 - \left(\frac{18 + 93 + 170}{78} \right)$

$= 8 - \left(\frac{281}{78} \right)$

$= 8 - \frac{281}{78}$

$= \frac{8}{1} - \frac{281}{78}$

$= \frac{8 \times 78 - 281 \times 1}{78}$

$= \frac{624 - 281}{78}$

$= \frac{343}{78} = 4\frac{31}{78} \text{ Ans.}$

Q5- How much bigger is $12\frac{1}{2}$ than the sum $\frac{4}{15} + \frac{19}{5} + 4\frac{3}{20}$?

Sol -

$$= 12\frac{1}{2} - \left(\frac{4}{15} + \frac{19}{5} + \frac{83}{20} \right)$$

$$= \frac{25}{2} - \left(\frac{4 \times 4 + 19 \times 12 + 83 \times 3}{60} \right)$$

$$= \frac{25}{2} - \left(\frac{16 + 228 + 249}{60} \right)$$

$$= \frac{25}{2} - \frac{493}{60}$$

$$= \frac{25 \times 30 - 493 \times 1}{60} = \frac{750 - 493}{60} = \frac{257}{60} = 4\frac{17}{60} \text{ Ans.}$$

Q6- Fill in —

(a) $\frac{3}{8} + \frac{5}{12} = \underline{\hspace{2cm}} + \frac{1}{4}$

Sol - $= \frac{3 \times 3 + 5 \times 2}{24} - \left(\frac{1}{4} \right)$

$$= \frac{9 + 10}{24} - \left(\frac{1}{4} \right)$$

$$= \frac{19}{24} - \frac{1}{4}$$

$$= \frac{19 - 1 \times 6}{24}$$

$$= \frac{19 - 6}{24} = \frac{13}{24} \text{ Ans.}$$

(b) $2\frac{2}{15} + \frac{3}{5} = \underline{\hspace{2cm}} + \frac{7}{20}$

Sol - $\frac{32}{15} + \frac{3}{5} - \frac{7}{20}$

$$= \frac{32 \times 4 + 3 \times 12 - 7 \times 3}{60}$$

$$= \frac{128 + 36 - 21}{60}$$

$$= \frac{143}{60} = \frac{143}{60}$$

$$= 2\frac{23}{60} \text{ Ans.}$$



Q 60 $3\frac{11}{14} + 2\frac{5}{9} = 4 +$

Sol $= \frac{53}{14} + \frac{23}{9} - \frac{4}{1}$

$$= \frac{53 \times 9 + 23 \times 14 - 4 \times 126}{126}$$

$$= \frac{477 + 322 - 504}{126}$$

$$= \frac{295}{126}$$

$$= 2\frac{43}{126} \text{ Ans.}$$

Q 71 $\frac{4}{9} + \frac{8}{9} - \frac{1}{1}$

Sol $= \frac{4 + 8 - 1 \times 9}{9}$

$$= \frac{12 - 9}{9}$$

$$= \frac{3}{9}$$

$$= \frac{1}{3} \text{ Ans.}$$

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Exc 7-5

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$$Q8:- 2\frac{5}{9} - 3 + \frac{13}{18}$$

$$\text{Sol} - = \frac{23}{9} - \frac{3}{1} + \frac{13}{18}$$

$$= \frac{23 \times 2 - 3 \times 18 + 13}{18}$$

$$= \frac{46 - 54 + 13}{18}$$

$$= \frac{59 - 54}{18}$$

$$= \frac{5}{18} \text{ Ans.}$$

$$Q9:- 5\frac{3}{8} + 3\frac{5}{9} - 6\frac{5}{12}$$

$$\text{Sol} - = \frac{43}{8} + \frac{32}{9} - \frac{77}{12}$$

$$= \frac{43 \times 9 + 32 \times 8 - 77 \times 6}{72}$$

$$= \frac{387 + 256 - 462}{72}$$

$$= \frac{643 - 462}{72}$$

$$= \frac{181}{72} = 2\frac{37}{72} \text{ Ans.}$$

$$Q10:- 2\frac{2}{5} - 1\frac{3}{10} + \frac{4}{15}$$

$$\text{Sol} - = \frac{12}{5} - \frac{13}{10} + \frac{4}{15}$$

$$= \frac{12 \times 6 - 13 \times 3 + 4 \times 2}{30}$$

$$= \frac{72 - 39 + 8}{30}$$

$$= \frac{80 - 39}{30} = \frac{41}{30} = 1\frac{11}{30} \text{ Ans.}$$

$$Q11:- 12\frac{5}{11} - 6\frac{17}{22} + 1\frac{10}{33}$$

$$\text{Sol} - = \frac{137}{11} - \frac{149}{22} + \frac{43}{33}$$

$$= \frac{137 \times 6 - 149 \times 3 + 43 \times 2}{66}$$

$$= \frac{822 - 447 + 86}{66}$$

$$= \frac{908 - 447}{66}$$

$$= \frac{461}{66}$$

$$= 6\frac{65}{66} \text{ Ans.}$$

$$Q12:- 10\frac{1}{12} - 1\frac{1}{6} - 2\frac{7}{15}$$

$$\text{Sol} - = \frac{121}{12} - \frac{7}{6} - \frac{37}{15}$$

$$= \frac{121 \times 5 - 7 \times 10 - 37 \times 4}{60}$$

$$= \frac{605 - 70 - 148}{60}$$

$$= \frac{605 - 218}{60}$$

$$= \frac{387}{60} = 129$$

$$= \frac{129}{20} = 6\frac{9}{20} \text{ Ans.}$$