

Let's Recall

A) Express as mixed fractions.

1) $\frac{21}{5} =$

Sol-
$$\begin{array}{r} 4 \\ 5 \overline{) 21} \\ \underline{- 20} \\ 1 \end{array} = 4\frac{1}{5}$$

2) $\frac{16}{3} = 5\frac{1}{3}$

3) $\frac{49}{2} = 24\frac{1}{2}$

4) $\frac{15}{11} = 1\frac{4}{11}$

5) $\frac{21}{17} = 1\frac{4}{17}$

B) Express as improper fractions.

1) $3\frac{8}{9} = \frac{9 \times 3 + 8}{9} = \frac{35}{9}$

2) $9\frac{2}{7} = \frac{7 \times 9 + 2}{7} = \frac{65}{7}$

3) $11\frac{4}{5} = \frac{5 \times 11 + 4}{5} = \frac{59}{5}$

4) $9\frac{3}{7} = \frac{7 \times 9 + 3}{7} = \frac{66}{7}$

5) $3\frac{2}{5} = \frac{5 \times 3 + 2}{5} = \frac{17}{5}$

C) Write two equivalent fractions for each.

1) $\frac{2}{5} = \frac{2 \times 2}{5 \times 2} = \frac{4}{10}, \frac{2 \times 3}{5 \times 3} = \frac{6}{15}$

2) $\frac{3}{7} = \frac{3 \times 2}{7 \times 2} = \frac{6}{14}, \frac{3 \times 3}{7 \times 3} = \frac{9}{21}$

3) $5\frac{1}{3} = \frac{16}{3}, \frac{16 \times 2}{3 \times 2} = \frac{32}{6}, \frac{16 \times 3}{3 \times 3} = \frac{48}{9}$

$$4) 2\frac{2}{3} = \frac{8}{3}, \quad \frac{8 \times 2}{3 \times 2} = \frac{16}{6}, \quad \frac{8 \times 3}{3 \times 3} = \frac{24}{9}$$

$$5) 1\frac{4}{7} = \frac{11}{7}, \quad \frac{11 \times 2}{7 \times 2} = \frac{22}{14}, \quad \frac{11 \times 3}{7 \times 3} = \frac{33}{21}$$

D) Add.

$$1) \frac{1}{5} + \frac{3}{5} = \frac{1+3}{5} = \frac{4}{5}$$

$$2) \frac{4}{7} + \frac{2}{7} = \frac{4+2}{7} = \frac{6}{7}$$

$$3) 1\frac{3}{16} + \frac{2}{16} = \frac{19}{16} + \frac{2}{16} = \frac{21}{16} = 1\frac{5}{16}$$

E) Subtract.

$$1) \frac{12}{20} - \frac{7}{20} = \frac{12-7}{20} = \frac{5}{20} = \frac{1}{4}$$

$$2) \frac{5}{16} - \frac{3}{16} = \frac{5-3}{16} = \frac{2}{16} = \frac{1}{8}$$

$$3) 1\frac{15}{17} - \frac{13}{17} = \frac{32}{17} - \frac{13}{17} = \frac{32-13}{17} = \frac{19}{17} = 1\frac{2}{17}$$

Exercise – 6.1

A) Compare the following.

$$1) \frac{3}{7} (<) \frac{4}{7}$$

$$2) \frac{5}{8} () \frac{5}{12}$$

$$\text{Sol- } \frac{5}{8} \text{ } \frac{5}{12}$$

$$= 5 \times 12, 5 \times 8$$

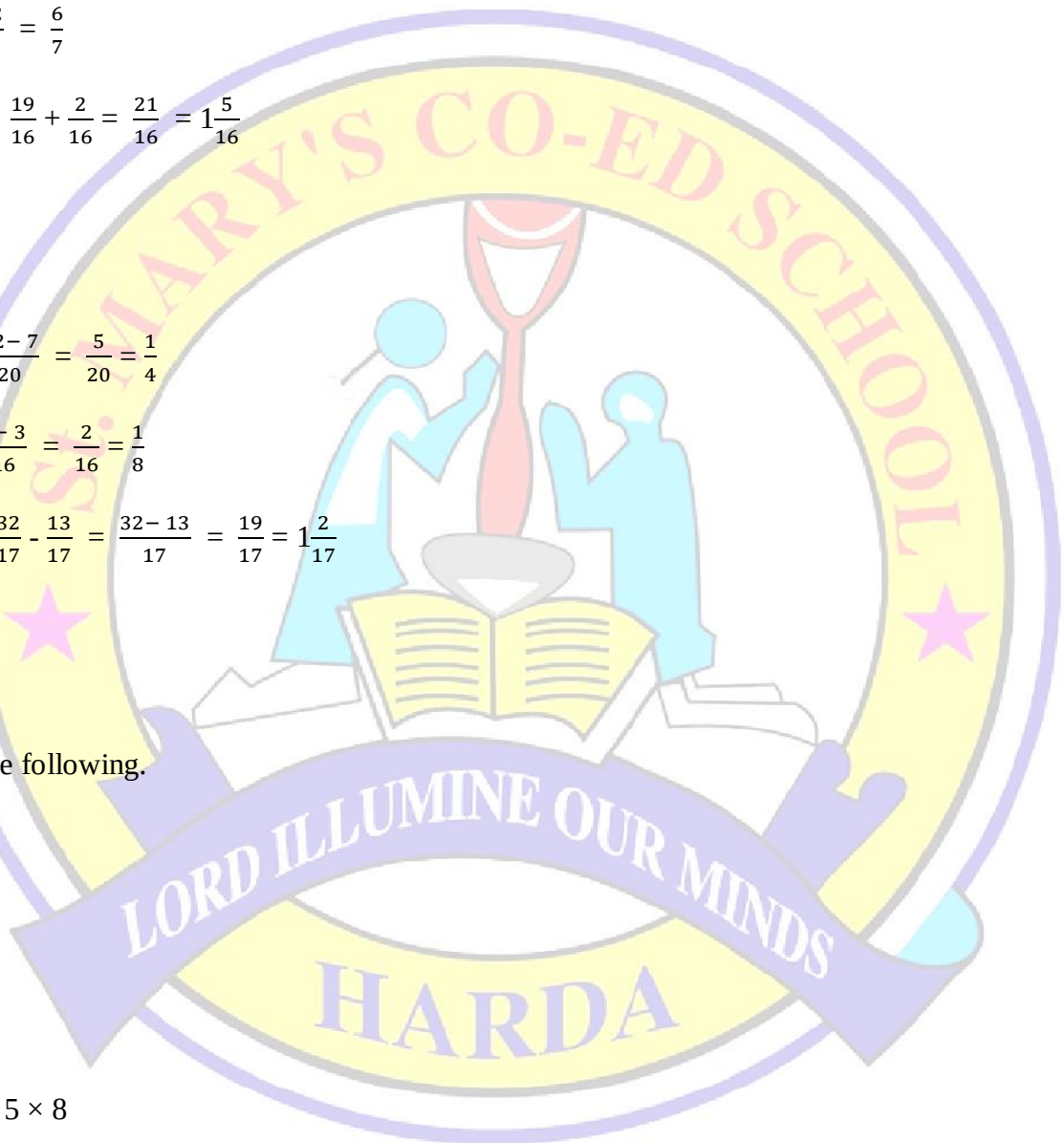
$$= 60, 40$$

$$= 60 > 40$$

$$\text{So, } \frac{5}{8} (>) \frac{5}{12}$$

$$3) \frac{7}{12} () \frac{6}{13}$$

$$\text{Sol- } \frac{7}{12} \text{ } \frac{6}{13}$$



$$= 7 \times 13, 6 \times 12$$

$$= 91, 72$$

$$= 91 > 72$$

$$\text{So, } \frac{7}{12} (>) \frac{6}{13}$$

$$4) 1\frac{5}{9} (<) 2\frac{7}{9} \quad 5) 1\frac{3}{8} (<) 2\frac{1}{8} \quad 6) 2\frac{5}{9} (<) 3\frac{1}{9}$$

B) Arrange the following in descending order and ascending order.

$$1) \frac{3}{8}, \frac{2}{8}, \frac{7}{8}, \frac{5}{8}, \frac{1}{8}$$

$$\text{Descending order - } \frac{7}{8}, \frac{5}{8}, \frac{3}{8}, \frac{2}{8}, \frac{1}{8}$$

$$\text{Ascending order - } \frac{1}{8}, \frac{2}{8}, \frac{3}{8}, \frac{5}{8}, \frac{7}{8}$$

$$2) \frac{5}{12}, \frac{1}{6}, \frac{3}{4}$$

Sol – LCM of 12, 6 and 4 = 12

$$= \frac{5}{12}, \frac{1 \times 2}{6 \times 2}, \frac{3 \times 3}{4 \times 3}$$

$$= \frac{5}{12}, \frac{2}{12}, \frac{9}{12}$$

$$\text{Descending order - } \frac{3}{4}, \frac{5}{12}, \frac{1}{6}$$

$$\text{Ascending order - } \frac{1}{6}, \frac{5}{12}, \frac{3}{4}$$

$$3) \frac{9}{10}, \frac{4}{5}, \frac{7}{15}, \frac{8}{15}$$

Sol- Sol – LCM of 10, 5, 15 and 15 = 30

$$= \frac{9 \times 3}{10 \times 3}, \frac{4 \times 6}{5 \times 6}, \frac{7 \times 2}{15 \times 2}, \frac{8 \times 2}{15 \times 2}$$

$$= \frac{27}{30}, \frac{24}{30}, \frac{14}{30}, \frac{16}{30}$$

$$\text{Descending order - } \frac{9}{10}, \frac{4}{5}, \frac{8}{15}, \frac{7}{15} \quad \text{Ascending order - } \frac{7}{15}, \frac{8}{15}, \frac{4}{5}, \frac{9}{10}$$

C) Compare the fractions given below.

1) $\frac{2}{3}$ and $\frac{1}{4}$

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

$$= 2 \times 4, 1 \times 3$$

$$= 8, 3$$

$$= 8 > 3$$

So, $\frac{2}{3} (>) \frac{1}{4}$

2) $2\frac{1}{2}$ and $\frac{3}{8} = \frac{5}{2}$ and $\frac{3}{8}$

Sol- $\frac{5}{2} \blacktriangle \blacktriangle \frac{3}{8}$

$$= 5 \times 8, 3 \times 2$$

$$= 40, 6$$

$$= 40 > 6$$

So, $\frac{5}{2} (>) \frac{3}{8} = 2\frac{1}{2} (>) \frac{3}{8}$

3)) $5\frac{1}{3}$ and $5\frac{2}{7} = \frac{16}{3}$ and $\frac{37}{7}$

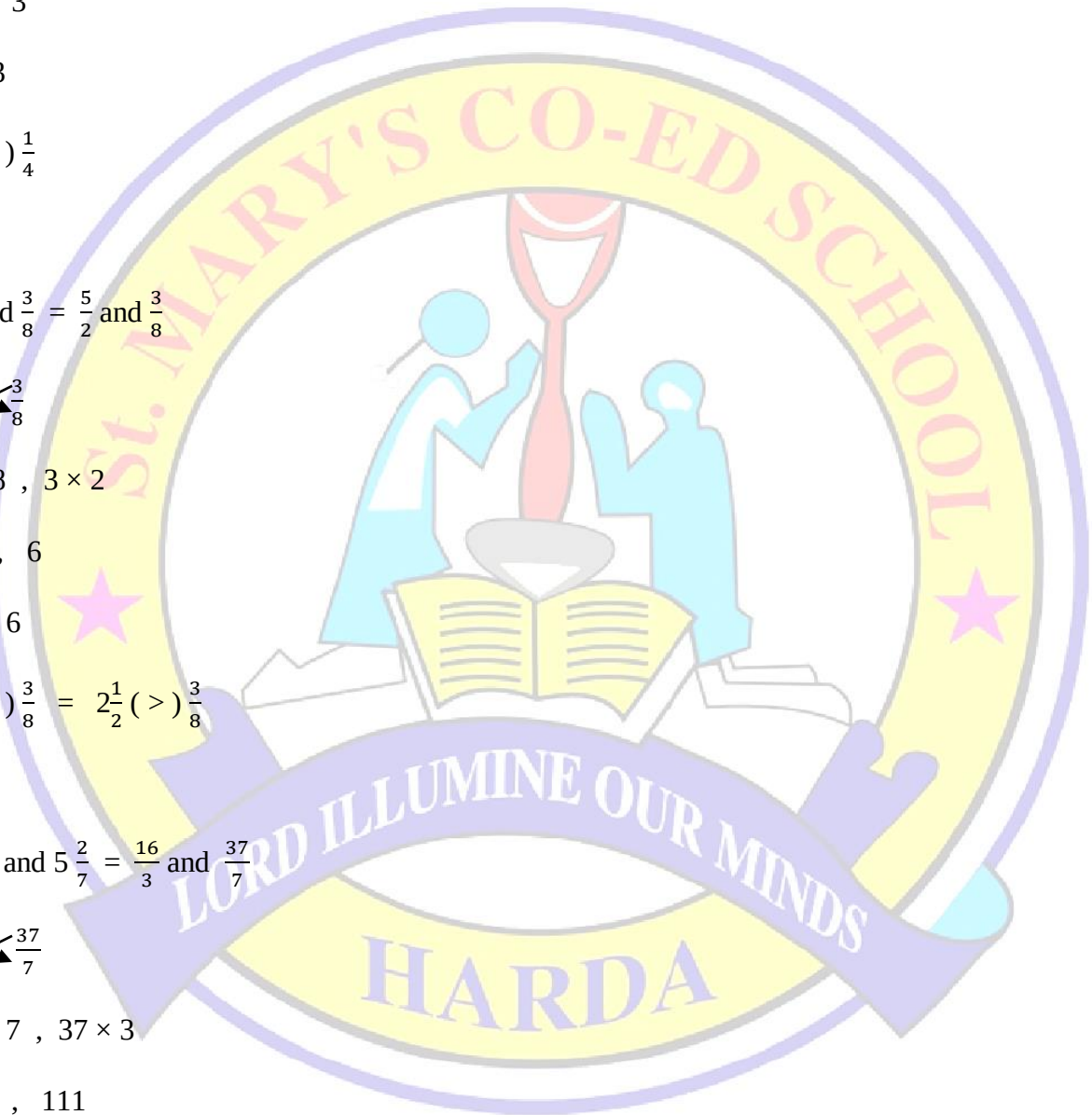
Sol- $\frac{16}{3} \blacktriangle \blacktriangle \frac{37}{7}$

$$= 16 \times 7, 37 \times 3$$

$$= 112, 111$$

$$= 112 > 111$$

So, $\frac{16}{3} (>) \frac{37}{7} = 5\frac{1}{3} (>) 5\frac{2}{7}$



Exercise – 6.2

A) Fill in the boxes.

1) $\frac{6}{12} + \frac{1}{12} = (\frac{7}{12})$

2) $3\frac{1}{19} + 1\frac{6}{19} = (4\frac{7}{19})$

3) $\frac{9}{11} - \frac{3}{11} = (\frac{16}{11})$

4) $7\frac{3}{8} - \frac{2}{8} = (7\frac{1}{8})$

5) $\frac{6}{15} - \frac{1}{15} + 1\frac{2}{15} = (1\frac{7}{15})$

6) $7\frac{1}{9} - 5\frac{1}{9} = (2)$

B) Add the following unlike fractions.

1) $\frac{2}{3} + \frac{4}{5}$

Sol- LCM of 3 and 5 = 15

$$= \frac{2 \times 5}{3 \times 5} + \frac{4 \times 3}{5 \times 3} = \frac{10}{15} + \frac{12}{15} = \frac{10+12}{15} = \frac{22}{15}$$

2) $\frac{2}{5} + \frac{3}{15} + \frac{13}{30}$

Sol- LCM of 5, 15 and 30 = 30

$$= \frac{2 \times 6}{5 \times 6} + \frac{3 \times 2}{15 \times 2} + \frac{13}{30} = \frac{12}{30} + \frac{6}{30} + \frac{13}{30} = \frac{12+6+13}{30} = \frac{31}{30}$$

3) $\frac{2}{8} + 1\frac{1}{9} + \frac{5}{36}$

Sol- $\frac{2}{8} + 1\frac{1}{9} + \frac{5}{36} = \frac{2}{8} + \frac{10}{9} + \frac{5}{36}$

LCM of 8, 9 and 36 = 72

$$= \frac{2 \times 9}{8 \times 9} + \frac{10 \times 8}{9 \times 8} + \frac{5 \times 2}{36 \times 2} = \frac{18}{72} + \frac{80}{72} + \frac{10}{72} = \frac{18+80+10}{72} = \frac{108}{72} = \frac{3}{2}$$

C) Subtract the following unlike fractions.

1) $\frac{3}{12} - \frac{4}{18}$

Sol- LCM of 12 and 18 = 36

$$= \frac{3 \times 3}{12 \times 3} - \frac{4 \times 2}{18 \times 2} = \frac{9}{36} - \frac{8}{36} = \frac{9-8}{36} = \frac{1}{36}$$

2) $\frac{14}{15} - \frac{3}{5} - \frac{2}{10}$

Sol- LCM of 15, 5 and 10 = 30

$$= \frac{14 \times 2}{15 \times 2} - \frac{3 \times 6}{5 \times 6} - \frac{2 \times 3}{10 \times 3} = \frac{28}{30} - \frac{18}{30} - \frac{6}{30} = \frac{28-18-6}{30} = \frac{4}{30} = \frac{2}{15}$$

3) $\frac{8}{9} - \frac{3}{6} - \frac{1}{3}$

Sol- LCM of 9, 6 and 3 = 18

$$= \frac{8 \times 2}{9 \times 2} - \frac{3 \times 3}{6 \times 3} - \frac{1 \times 6}{3 \times 6} = \frac{16}{18} - \frac{9}{18} - \frac{6}{18} = \frac{16-9-6}{18} = \frac{1}{18}$$

D) Subtract the following unlike mixed fractions.

1) $4\frac{3}{4} - 2\frac{5}{12} = \frac{19}{4} - \frac{29}{12}$

Sol- LCM of 4 and 12 = 12

$$= \frac{19 \times 3}{4 \times 3} - \frac{29}{12} = \frac{57}{12} - \frac{29}{12} = \frac{57-29}{12} = \frac{28}{12} = \frac{7}{3}$$

2) $4\frac{10}{30} - 1\frac{2}{15} - 2 = \frac{130}{30} - \frac{17}{15} - \frac{2}{1}$

Sol- LCM of 30 and 15 = 30

$$= \frac{130}{30} - \frac{17 \times 2}{15 \times 2} - \frac{2 \times 30}{1 \times 30} = \frac{130}{30} - \frac{34}{30} - \frac{60}{30} = \frac{130-34-60}{30} = \frac{36}{30} = \frac{6}{5}$$

3) $6\frac{1}{4} - \frac{1}{2} = \frac{25}{4} - \frac{1}{2}$

Sol- LCM of 4 and 2 = 4

$$= \frac{25}{4} - \frac{1 \times 2}{2 \times 2} = \frac{25}{4} - \frac{2}{4} = \frac{25-2}{4} = \frac{23}{4} = 5\frac{3}{4}$$

Exercise -6.3

1) Mr. Sharma is $\frac{14}{9}$ m tall . Mrs . Sharma is $\frac{11}{15}$ m shorter than him . What is Mrs . Sharma's height ?

Sol- $\frac{14}{9} \text{ m} - \frac{11}{15} \text{ m} = ?$

Sol- LCM of 9 and 15 = 45

$$= \frac{14 \times 5}{9 \times 5} - \frac{11 \times 3}{15 \times 3} = \frac{70}{45} - \frac{33}{45} = \frac{70-33}{45} = \frac{37}{45} \text{ m}$$

So , Mrs Sharma's height = $\frac{37}{45}$ m

2) Sandhya ate $\frac{3}{7}$ of a cake and Megha ate $\frac{2}{9}$. What fraction of cake did they eat together ?

Sol- $\frac{3}{7} + \frac{2}{9} = ?$

Sol- LCM of 7 and 9 = 63

$$= \frac{3 \times 9}{7 \times 9} + \frac{2 \times 7}{9 \times 7} = \frac{27}{63} + \frac{14}{63} = \frac{27+14}{63} = \frac{41}{63}$$

So , $\frac{41}{63}$ of cake they ate together

3) A bouquet had 52 flowers . Out of which $\frac{6}{13}$ are roses and others are daffodils. How many daffodils does the bouquet contain?

Sol- 52 of $\frac{6}{13} = ?$

$$= 52 \times \frac{6}{13} = \frac{312}{13} = 24$$

Roses = 24

So, Daffodils = $52 - 24 = 28$

Ans- The bouquet contains 28 daffodils.