



# ST. LAWRENCE HIGH SCHOOL



A JESUIT CHRISTIAN MINORITY INSTITUTION

27, BALLYGUNGE CIRCULAR ROAD, KOLKATA- 700019

CLASS – IV TERM – SECOND SUBJECT- ARITHMETIC ANSWER WORKSHEET – 9 TOPIC – FRACTIONS DATE – 13.05.2020

## 1. Subtract and reduce to the lowest forms.

$$\begin{aligned} \text{a) } & \frac{5}{7} - \frac{2}{6} \\ &= \frac{5 \times 6}{7 \times 6} - \frac{2 \times 7}{6 \times 7} \\ &= \frac{30}{42} - \frac{14}{42} \\ &= \frac{30 - 14}{42} \\ &= \frac{16}{42} \end{aligned}$$

H. C. F. of 16 and 42 is 2

$$\frac{16}{42} = \frac{16 \div 2}{42 \div 2} = \frac{8}{21}$$

Hence,  $\frac{8}{21}$  is the lowest form of  $\frac{16}{42}$

$$\begin{aligned} \text{b) } & \frac{6}{9} - \frac{3}{8} \\ &= \frac{6 \times 8}{9 \times 8} - \frac{3 \times 9}{8 \times 9} \\ &= \frac{48}{72} - \frac{27}{72} \\ &= \frac{48 - 27}{72} \\ &= \frac{21}{72} \end{aligned}$$

H. C. F. of 21 and 72 is 3

$$\frac{21}{72} = \frac{21 \div 3}{72 \div 3} = \frac{7}{24}$$

Hence,  $\frac{7}{24}$  is the lowest form of  $\frac{21}{72}$

$$\begin{aligned} \text{c) } & \frac{4}{8} - \frac{2}{7} \\ &= \frac{4 \times 7}{8 \times 7} - \frac{2 \times 8}{7 \times 8} \\ &= \frac{28}{56} - \frac{16}{56} \\ &= \frac{28 - 16}{56} \\ &= \frac{12}{56} \end{aligned}$$

H. C. F. of 12 and 56 is 4

$$\frac{12}{56} = \frac{12 \div 4}{56 \div 4} = \frac{3}{14}$$

Hence,  $\frac{3}{14}$  is the lowest form of  $\frac{12}{56}$

$$\begin{aligned}
 \text{d) } & \frac{6}{10} - \frac{2}{5} \\
 &= \frac{6 \times 5}{10 \times 5} - \frac{2 \times 10}{5 \times 10} \\
 &= \frac{30}{50} - \frac{20}{50} \\
 &= \frac{30 - 20}{50} \\
 &= \frac{10}{50}
 \end{aligned}$$

H. C. F. of 10 and 50 is 10

$$\frac{10}{50} = \frac{10 \div 10}{50 \div 10} = \frac{1}{5}$$

Hence,  $\frac{1}{5}$  is the lowest form of  $\frac{10}{50}$

$$\begin{aligned}
 \text{e) } & \frac{6}{7} - \frac{4}{6} \\
 &= \frac{6 \times 6}{7 \times 6} - \frac{4 \times 7}{6 \times 7} \\
 &= \frac{36}{42} - \frac{28}{42} \\
 &= \frac{36 - 28}{42} \\
 &= \frac{8}{42}
 \end{aligned}$$

H. C. F. of 8 and 42 is 2

$$\frac{8}{42} = \frac{8 \div 2}{42 \div 2} = \frac{4}{21}$$

Hence,  $\frac{4}{21}$  is the lowest form of  $\frac{8}{42}$

## 2. Solve:

**Mixed numbers can be added by converting them into improper fractions and then like fractions. Like fractions can be added to obtain the answer.**

$$\begin{aligned}
 \text{a) } & 3\frac{1}{2} + 4\frac{1}{3} \\
 &= \frac{2 \times 3 + 1}{2} + \frac{3 \times 4 + 1}{3} \\
 &= \frac{7}{2} + \frac{13}{3} \\
 &= \frac{7 \times 3}{2 \times 3} + \frac{13 \times 2}{3 \times 2} \\
 &= \frac{21}{6} + \frac{26}{6} \\
 &= \frac{21 + 26}{6} \\
 &= \frac{47}{6} \\
 &= 7\frac{5}{6}
 \end{aligned}$$

$$\begin{array}{r}
 7 \\
 \hline
 6 \overline{) 47} \\
 \underline{42} \\
 5
 \end{array}$$

**Ans.  $7\frac{5}{6}$**

$$\begin{aligned}
 \text{b) } & 2\frac{1}{2} + 3\frac{2}{3} \\
 &= \frac{2 \times 2 + 1}{2} + \frac{3 \times 3 + 2}{3} \\
 &= \frac{5}{2} + \frac{11}{3} \\
 &= \frac{5 \times 3}{2 \times 3} + \frac{11 \times 2}{3 \times 2} \\
 &= \frac{15}{6} + \frac{22}{6} \\
 &= \frac{15+22}{6} \\
 &= \frac{37}{6} = 6\frac{1}{6} \quad \text{Ans. } 6\frac{1}{6}
 \end{aligned}$$

$$\begin{aligned}
 \text{c) } & 2\frac{2}{4} + 3\frac{2}{5} \\
 &= \frac{4 \times 2 + 2}{4} + \frac{5 \times 3 + 2}{5} \\
 &= \frac{10}{4} + \frac{17}{5} \\
 &= \frac{10 \times 5}{4 \times 5} + \frac{17 \times 4}{5 \times 4} \\
 &= \frac{50}{20} + \frac{68}{20} \\
 &= \frac{50+68}{20} \\
 &= \frac{118}{20} \\
 &= 5\frac{18}{20} \quad \text{Ans. } 5\frac{18}{20}
 \end{aligned}$$

$$\begin{aligned}
 \text{d) } & 3\frac{3}{5} + 3\frac{1}{3} \\
 &= \frac{5 \times 3 + 3}{5} + \frac{3 \times 3 + 1}{3} \\
 &= \frac{18}{5} + \frac{10}{3} \\
 &= \frac{18 \times 3}{5 \times 3} + \frac{10 \times 5}{3 \times 5} \\
 &= \frac{54}{15} + \frac{50}{15} \\
 &= \frac{54+50}{15} \\
 &= \frac{104}{15} \\
 &= 6\frac{14}{15} \quad \text{Ans. } 6\frac{14}{15}
 \end{aligned}$$

$$\begin{aligned}
 \text{e) } & 4\frac{2}{5} + 5\frac{1}{2} \\
 &= \frac{5 \times 4 + 2}{5} + \frac{2 \times 5 + 1}{2} \\
 &= \frac{22}{5} + \frac{11}{2} \\
 &= \frac{22 \times 2}{5 \times 2} + \frac{11 \times 5}{2 \times 5} \\
 &= \frac{44}{10} + \frac{55}{10} \\
 &= \frac{44+55}{10} \\
 &= \frac{99}{10} = 9\frac{9}{10} \quad \text{Ans. } 9\frac{9}{10}
 \end{aligned}$$

### 3. Add the following fractions.

$$\begin{aligned} \text{a) } \frac{4}{7} + \frac{3}{9} &= \frac{4 \times 9}{7 \times 9} + \frac{3 \times 7}{9 \times 7} \\ &= \frac{36}{63} + \frac{21}{63} \\ &= \frac{36+21}{63} \\ &= \frac{57}{63} \end{aligned}$$

**Ans.**  $\frac{57}{63}$

$$\begin{aligned} \text{b) } \frac{3}{10} + \frac{4}{12} &= \frac{3 \times 12}{10 \times 12} + \frac{4 \times 10}{12 \times 10} \\ &= \frac{36}{120} + \frac{40}{120} \\ &= \frac{36+40}{120} \\ &= \frac{76}{120} \end{aligned}$$

**Ans.**  $\frac{76}{120}$

### 4. Subtract the following fractions.

$$\begin{aligned} \text{a) } \frac{5}{7} - \frac{2}{4} &= \frac{5 \times 4}{7 \times 4} - \frac{2 \times 7}{4 \times 7} \\ &= \frac{20}{28} - \frac{14}{28} \\ &= \frac{20-14}{28} \\ &= \frac{6}{28} \end{aligned}$$

**Ans.**  $\frac{6}{28}$

$$\begin{aligned} \text{b) } \frac{6}{10} - \frac{4}{8} &= \frac{6 \times 8}{10 \times 8} - \frac{4 \times 10}{8 \times 10} \\ &= \frac{48}{80} - \frac{40}{80} \\ &= \frac{48-40}{80} \\ &= \frac{8}{80} \end{aligned}$$

**Ans.**  $\frac{8}{80}$

### 5. Fill in the blanks:-

$$\text{a) } \frac{3}{20} + \frac{5}{20} + \frac{7}{20} = \frac{15}{20}$$

$$\text{b) } \frac{8}{26} + \frac{7}{26} + \frac{5}{26} = \frac{20}{26}$$

$$\text{c) } \frac{9}{24} - \frac{5}{24} = \frac{4}{24}$$

6. Harry walked  $2\frac{2}{4}$  kilometres on Monday. And he walked  $3\frac{1}{3}$  kilometres on Tuesday.

What was the total distance he walked?

Distance Harry walked on Monday

Distance Harry walked on Tuesday

∴ Total distance he walked

$$\begin{aligned}
 & 2\frac{2}{4} \text{ km} \\
 & 3\frac{1}{3} \text{ km} \\
 & 2\frac{2}{4} + 3\frac{1}{3} \\
 & = \frac{4 \times 2 + 2}{4} + \frac{3 \times 3 + 1}{3} \\
 & = \frac{10}{4} + \frac{10}{3} \\
 & = \frac{10 \times 3}{4 \times 3} + \frac{10 \times 4}{3 \times 4} \\
 & = \frac{30}{12} + \frac{40}{12} \\
 & = \frac{30+40}{12} \\
 & = \frac{70}{12} \\
 & = 5\frac{10}{12}
 \end{aligned}$$

**Ans.**  $5\frac{10}{12}$  km was the total distance Harry walked.

7. Tina needs  $\frac{3}{5}$  cup of walnuts and  $\frac{1}{3}$  cup of almonds to put in the cake. How many cups of nuts does she need to make her cake?

Cups of walnuts Tina needs

Cups of almonds Tina needs

∴ Total cups of nuts she needs

$$\begin{aligned}
 & \frac{3}{5} \text{ cup} \\
 & \frac{1}{3} \text{ cup} \\
 & = \frac{3}{5} + \frac{1}{3} \\
 & = \frac{3 \times 3}{5 \times 3} + \frac{1 \times 5}{3 \times 5} \\
 & = \frac{9}{15} + \frac{5}{15} \\
 & = \frac{9+5}{15} \\
 & = \frac{14}{15}
 \end{aligned}$$

**Ans.** She needs  $\frac{14}{15}$  cups of nuts to make her cake.

8. There was  $\frac{5}{7}$  litres of juice in a bottle. A girl drank  $\frac{2}{3}$  litres. How much juice was left in the bottle?

Amount of juice in a bottle

Amount of juice the girl drank

∴ Amount of juice was left

$$\begin{aligned}
 & \frac{5}{7} \text{ litres} \\
 & \frac{2}{3} \text{ litres} \\
 & = \frac{5}{7} - \frac{2}{3} \\
 & = \frac{5 \times 3}{7 \times 3} - \frac{2 \times 7}{3 \times 7} \\
 & = \frac{15}{21} - \frac{14}{21} \\
 & = \frac{15-14}{21} \\
 & = \frac{1}{21}
 \end{aligned}$$

**Ans.**  $\frac{1}{21}$  litres of juice was left in the bottle.