



# ST. LAWRENCE HIGH SCHOOL



A JESUIT CHRISTIAN MINORITY INSTITUTION

27, BALLYGUNGE CIRCULAR ROAD, KOLKATA- 700019

CLASS – IV TERM – SECOND SUBJECT- ARITHMETIC ANSWER WORKSHEET – 11 TOPIC – FRACTIONS DATE – 15.05.2020

## 1. Check whether following fractions are equivalent or not:

a)  $\frac{4}{7}, \frac{3}{10}$

We cross multiply  $\frac{4}{7}$  and  $\frac{3}{10}$   
$$= \frac{4 \times 10}{7 \times 3} = \frac{40}{21}$$

Since, the products are not same,  $\frac{4}{7}$  and  $\frac{3}{10}$  are not equivalent.

b)  $\frac{2}{5}, \frac{6}{15}$

We cross multiply  $\frac{2}{5}$  and  $\frac{6}{15}$   
$$= \frac{2 \times 15}{5 \times 6} = \frac{30}{30}$$

Since, the products are same,  $\frac{2}{5}$  and  $\frac{6}{15}$  are equivalent.

## 2. Compare the pair of fractions by cross multiplication.

a)  $\frac{5}{7}, \frac{4}{13}$

$$\frac{5}{7} \times \frac{4}{13}$$

$$5 \times 13 = 65$$

$$7 \times 4 = 28$$

Since,  $65 > 28$

So,  $\frac{5}{7} > \frac{4}{13}$

b)  $\frac{7}{18}, \frac{6}{14}$

$$\frac{7}{18} \times \frac{6}{14}$$

$$7 \times 14 = 98$$

$$18 \times 6 = 108$$

Since,  $98 < 108$

So,  $\frac{7}{18} < \frac{6}{14}$

### 3. Find the greatest and the smallest fractions.

When numerators are equal, the fraction with smaller denominator is greater and the fraction with greater denominator is smaller.

a)  $\frac{8}{17}, \frac{8}{13}, \frac{8}{21}, \frac{8}{9}$

**Ans. Greatest fraction -  $\frac{8}{9}$**

**Smallest fraction -  $\frac{8}{21}$**

b)  $\frac{6}{15}, \frac{8}{15}, \frac{11}{15}, \frac{13}{15}$

**Ans. Greatest fraction -  $\frac{13}{15}$**

**Smallest fraction -  $\frac{6}{15}$**

### 4. Convert to like fractions and compare.

a)  $\frac{6}{7} \square \frac{5}{8}$

L. C. M. of 7 and 8 is 56

$$\frac{6}{7} = \frac{6 \times 8}{7 \times 8} = \frac{48}{56}$$

$$\frac{5}{8} = \frac{5 \times 7}{8 \times 7} = \frac{35}{56}$$

Since,  $48 > 35$

$$\text{So, } \frac{48}{56} > \frac{35}{56}$$
$$= \frac{6}{7} > \frac{5}{8}$$

**Ans.  $\frac{6}{7} \square > \frac{5}{8}$**

b)  $\frac{4}{6} \square \frac{7}{9}$

L. C. M. of 6 and 9 is 54

$$\frac{4}{6} = \frac{4 \times 9}{6 \times 9} = \frac{36}{54}$$

$$\frac{7}{9} = \frac{7 \times 6}{9 \times 6} = \frac{42}{54}$$

Since,  $36 < 42$

$$\text{So, } \frac{36}{54} < \frac{42}{54}$$
$$= \frac{4}{6} < \frac{7}{9}$$

**Ans.  $\frac{4}{6} \square < \frac{7}{9}$**

5. Write equivalent fractions of  $\frac{12}{20}$  with a) Denominator 5

b) Numerator 24

a) Denominator 5

$$\frac{12}{20} = \frac{12 \div 4}{20 \div 4} = \frac{3}{5}$$

Thus,  $\frac{3}{5}$  is the required fraction.

b) Numerator 24

$$\frac{12}{20} = \frac{12 \times 2}{20 \times 2} = \frac{24}{40}$$

Thus,  $\frac{24}{40}$  is the required fraction.

6. Express the following improper fraction as mixed numbers:

a)  $\frac{18}{5}$

$$\begin{array}{r} 3 \\ 5 \overline{)18} \\ \underline{15} \\ 3 \end{array}$$

**Ans.  $3\frac{3}{5}$**

b)  $\frac{23}{4}$

$$\begin{array}{r} 5 \\ 4 \overline{)23} \\ \underline{20} \\ 3 \end{array}$$

**Ans.  $5\frac{3}{4}$**

7. Express the following mixed numbers as improper fraction:

a)  $7\frac{2}{3}$

$$7\frac{2}{3} = \frac{(3 \times 7) + 2}{3} = \frac{21+2}{3} = \frac{23}{3}$$

**Ans.  $\frac{23}{3}$**

b)  $9\frac{4}{5}$

$$9\frac{4}{5} = \frac{(5 \times 9) + 4}{5} = \frac{45+4}{5} = \frac{49}{5}$$

**Ans.  $\frac{49}{5}$**

**8. Reduce the following fractions into their lowest forms.**

a)  $\frac{55}{99}$

H. C. F. of 55 and 99 is 11

$$\frac{55}{99} = \frac{55 \div 11}{99 \div 11} = \frac{5}{9}$$

Hence,  $\frac{5}{9}$  is the lowest form of  $\frac{55}{99}$

b)  $\frac{15}{48}$

H. C. F. of 15 and 48 is 3

$$\frac{15}{48} = \frac{15 \div 3}{48 \div 3} = \frac{5}{16}$$

Hence,  $\frac{5}{16}$  is the lowest form of  $\frac{15}{48}$

**9. Add and reduce to the lowest forms.**

a)  $\frac{4}{7} + \frac{2}{8}$

$$= \frac{4 \times 8}{7 \times 8} + \frac{2 \times 7}{8 \times 7}$$

$$= \frac{32}{56} + \frac{14}{56}$$

$$= \frac{32 + 14}{56}$$

$$= \frac{46}{56}$$

H. C. F. of 46 and 56 is 2

$$\frac{46}{56} = \frac{46 \div 2}{56 \div 2} = \frac{23}{28}$$

Hence,  $\frac{23}{28}$  is the lowest form of  $\frac{46}{56}$

b)  $\frac{4}{9} + \frac{2}{6}$

$$= \frac{4 \times 6}{9 \times 6} + \frac{2 \times 9}{6 \times 9}$$

$$= \frac{24}{54} + \frac{18}{54}$$

$$= \frac{24 + 18}{54}$$

$$= \frac{42}{54}$$

H. C. F. of 42 and 54 is 6

$$\frac{42}{54} = \frac{42 \div 6}{54 \div 6} = \frac{7}{9}$$

Hence,  $\frac{7}{9}$  is the lowest form of  $\frac{42}{54}$

10.

- a) Sam bought  $2\frac{1}{2}$  kg of sugar from one shop and  $6\frac{2}{3}$  kg of sugar from the other shop. How much sugar did he buy in all?

Quantity of sugar bought from one shop

Quantity of sugar bought from the other shop

∴ Total quantity of sugar he bought in all

$$\begin{aligned} & 2\frac{1}{2} \text{ kg} \\ & 6\frac{2}{3} \text{ kg} \\ & 2\frac{1}{2} + 6\frac{2}{3} \\ & = \frac{2 \times 2 + 1}{2} + \frac{3 \times 6 + 2}{3} \\ & = \frac{5}{2} + \frac{20}{3} \\ & = \frac{5 \times 3}{2 \times 3} + \frac{20 \times 2}{3 \times 2} \\ & = \frac{15}{6} + \frac{40}{6} \\ & = \frac{15 + 40}{6} \\ & = \frac{55}{6} \\ & = 9\frac{1}{6} \end{aligned}$$

**Ans.** Sam bought  $9\frac{1}{6}$  kg of sugar in all.

- b) Ron walked  $3\frac{3}{4}$  km on Monday,  $4\frac{1}{3}$  km on Tuesday. What distance did he walk in all?

Distance Ron walked on Monday

Distance he walked on Tuesday

∴ Total distance Ron walked in all

$$\begin{aligned} & 3\frac{3}{4} \text{ km} \\ & 4\frac{1}{3} \text{ km} \\ & 3\frac{3}{4} + 4\frac{1}{3} \\ & = \frac{4 \times 3 + 3}{4} + \frac{3 \times 4 + 1}{3} \\ & = \frac{15}{4} + \frac{13}{3} \\ & = \frac{15 \times 3}{4 \times 3} + \frac{13 \times 4}{3 \times 4} \\ & = \frac{45}{12} + \frac{52}{12} \\ & = \frac{45 + 52}{12} \\ & = \frac{97}{12} \\ & = 8\frac{1}{12} \end{aligned}$$

**Ans.** Ron walked  $8\frac{1}{12}$  km in all.