Cosmo School

Class: 4
Subject : Mathematics
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Campus : Bosonto
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Chapter: Eight

Fractions

Lecture no-01

Fraction = $\frac{Numerator}{Deno\min ator} = \frac{a}{b}$

Here, a=Numerator
And b= Denominator

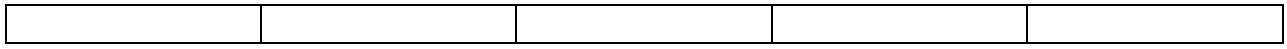
For example :Fraction = $\frac{3}{7}$

Here, 3=Numerator
And 7= Denominator

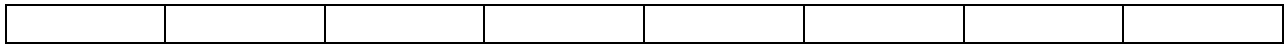
8.1 Common fractions with the same denominator

1. Colour the following

$\frac{1}{5}$



$\frac{3}{8}$



2. Put the symbols "<" or ">"

(1) $\frac{1}{4}$ ☐ $\frac{3}{4}$ (2) $\frac{2}{5}$ ☐ $\frac{1}{5}$ (3) $\frac{5}{7}$ ☐ $\frac{4}{7}$ (4) $\frac{8}{9}$ ☐ 1

3. Do calculation

(1) $\frac{1}{3}+\frac{1}{3}$ **(2)** $\frac{2}{7}+\frac{4}{7}$ **(3)** $\frac{5}{6}+\frac{1}{6}$ **(4)** $\frac{3}{10}+\frac{7}{10}$

(1) $\frac{2}{3}-\frac{1}{3}$ **(2)** $\frac{7}{9}-\frac{5}{9}$ **(3)** $1-\frac{2}{3}$ **(4)** $1-\frac{7}{10}$

8.2 Fractions smaller than 1, equal to 1 and larger than 1

Proper fraction: A fraction in which the numerator is less than the denominator is called proper fraction. (numerator < denominator)

Such that , $\frac{3 \rightarrow smaller}{4 \rightarrow larger}$

So that $\frac{3}{4}$ is a proper fraction

Improper fraction: A fraction in which the numerator is greater than the denominator (numerator > denominator) or numerator is equal to denominator (numerator =denominator)is called improper fraction.

Such that , $\frac{7 \rightarrow larger}{4 \rightarrow smaller}$

So that $\frac{7}{4}$ is a improper fraction.(numerator > denominator)

Again, Such that , $\frac{4}{4}$ =equal

So that $\frac{4}{4}$ is a improper fraction.(numerator =denominator)

Exercise(1) page no-94

1. **Find proper fractions and fractions equal to 1 in the box**

   (1) Proper fractions are

   ( )

   (2) Improper fractions are

   ( )

   $\frac{2}{3}, \frac{4}{4}, \frac{5}{8}, \frac{8}{5}, \frac{3}{9}, \frac{13}{12}, \frac{27}{26}$

   $\frac{1}{1}, \frac{76}{76}, \frac{42}{48}, \frac{2}{25}, \frac{3}{3}$

2. **Arrange the followings from smaller to larger and show it by symbols**

   (1) $\frac{6}{7}, \frac{3}{7}, \frac{7}{7}, \frac{2}{7}$ (2) $\frac{4}{7}, \frac{4}{5}, \frac{4}{11}, \frac{4}{9}$ (3) $\frac{11}{23}, \frac{11}{13}, \frac{11}{17}, \frac{11}{91}$

Solution

1. Colour the following

$\frac{1}{5}$

$\frac{3}{8}$

2. Put the symbols "<" or ">"

(1) $\frac{1}{4}$ [<] $\frac{3}{4}$ (2) $\frac{2}{5}$ [>] $\frac{1}{5}$ (3) $\frac{5}{7}$ [>] $\frac{4}{7}$ (4) $\frac{8}{9}$ < [1]

3. Do calculation

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

Solution: $\frac{1}{3}+\frac{1}{3}$

$=\frac{1+1}{3}$ $H.c..f = 3$

$=\frac{2}{3}$

Ans: $\frac{2}{3}$

(2) $\frac{2}{7}+\frac{4}{7}$

Solution: $\frac{2}{7}+\frac{4}{7}$

$=\frac{2+4}{7}$ $H.c.f = 7$

$=\frac{6}{7}$

Ans: $\frac{6}{7}$

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

Solution: $\frac{5}{6}+\frac{1}{6}$

$=\frac{5+1}{6} \quad H.c.f=6$

$=\frac{\cancel{6}1}{\cancel{6}1}$

$=1$

Ans:1

(4) $\frac{3}{10}+\frac{7}{10}$

Solution: $\frac{3}{10}+\frac{7}{10}$

$=\frac{3+7}{10} \quad H.c.f=10$

$=\frac{\cancel{10}\ 1}{\cancel{10}\ 1}$

$=1$

Ans:1

(1) $\frac{2}{3}-\frac{1}{3}$

Solution: $\frac{2}{3}-\frac{1}{3}$

$=\frac{2-1}{3} \quad H.c.f=3$

$=\frac{1}{3}$

Ans: $\frac{1}{3}$

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

Solution: $\frac{7}{9}-\frac{5}{9}$

$=\frac{7-5}{9} \quad H.c.f=9$

$=\frac{2}{9}$

Ans: $\frac{2}{9}$

(3) $1-\frac{2}{3}$

Solution: $1-\frac{2}{3}$

$=\frac{3-2}{3}$ $H.c.f = 3$

$=\frac{1}{3}$

Ans: $\frac{1}{3}$

(4) $1-\frac{7}{10}$

Solution: $1-\frac{7}{10}$

$=\frac{10-7}{10}$ $H.c.f = 10$

$=\frac{3}{10}$

Ans: $\frac{3}{10}$

Exercise(1) page no-94

1. **Find proper fractions and fractions equal to 1 in the box**

$\frac{2}{3}, \frac{4}{4}, \frac{5}{8}, \frac{8}{5}, \frac{3}{9}, \frac{13}{12}, \frac{27}{26}$

$\frac{1}{1}, \frac{76}{76}, \frac{42}{48}, \frac{2}{25}, \frac{3}{3}$

(1) Proper fractions are

( )

(2) Improper fractions are

( )

Solution:

(1) Proper fractions are = $\frac{2}{3}, \frac{5}{8}, \frac{3}{9}, \frac{42}{48}, \frac{2}{25}$

(2) Improper fractions are = $\frac{4}{4}, \frac{8}{5}, \frac{13}{12}, \frac{27}{26}, \frac{1}{1}, \frac{76}{76}, \frac{42}{48}, \frac{3}{3}$

2. Arrange the followings from smaller to larger and show it by symbols

(1) $\frac{6}{7}, \frac{3}{7}, \frac{7}{7}, \frac{2}{7}$

Solution: $\frac{2}{7} < \frac{3}{7} < \frac{6}{7} < \frac{7}{7}$

(2) $\frac{4}{7}, \frac{4}{5}, \frac{4}{11}, \frac{4}{9}$

Solution: $\frac{4}{11} < \frac{4}{9} < \frac{4}{7} < \frac{4}{5}$

(3) $\frac{11}{23}, \frac{11}{13}, \frac{11}{17}, \frac{11}{91}$

Solution: $\frac{11}{91} < \frac{11}{23} < \frac{11}{17} < \frac{11}{13}$