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Lecture Sheet-1 (03/06/2020)

Class Four

Subject Mathematics

Chapter 8

Topic Fractions

Fractions:

Fractions are numbers which are denoted by Numerator and Denominator. Such as $\frac{7}{9}$ where 7 is numerator and 9 is denominator.

Proper and Improper fractions:

Fractions which are smaller than 1 are called **Proper Fractions.**

Or

We can say if numerator is smaller than denominator, the fraction is **Proper Fraction**.

Example:

Such as $\frac{5}{7}$ is Proper because numerator 5 is smaller than the denominator 7.

Fractions which are equal to 1 or greater than 1 are called **Improper Fractions.**

Or

We can say if numerator is equal to the denominator or greater than the denominator, the fraction is **Improper Fraction.**

Example:

Such as $\frac{7}{7}$ is Improper because numerator 7 is equal to the denominator 7 and $\frac{9}{4}$ is also Improper because numerator 9 is greater than denominator 4.

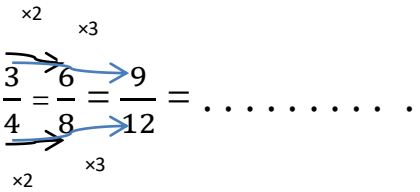
Equivalent Fractions:

Fractions which are equal each other are called equivalent fractions.

We can calculate equivalent fractions in two ways:-

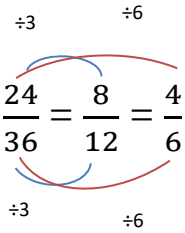
1. By multiplying numerator and denominator with same number.

Example:



2. By dividing numerator and denominator by same number.

Example:



Reducing a fraction into lowest term:

By dividing numerator and denominator by their HCF, we can get the lowest term of the fraction. Such as

$$\frac{12}{18}$$

$= \frac{2}{3}$ [Dividing 12 and 18 by their HCF 6.]

Comparison of fractions:

1. If denominators are same, the fraction is greater whose numerator is greater.

Example:

$\frac{5}{9} > \frac{3}{9}$, $\frac{7}{15} < \frac{11}{15}$

2. If numerators are same, the fraction is greater whose denominator is smaller.

Example:

$\frac{8}{13} < \frac{8}{11}, \frac{17}{23} > \frac{17}{25}$

Finding common Denominator:

$\frac{3}{4}, \frac{5}{6}$

LCM of 4 and 6 = 12

Now,

12÷4=3

$\therefore \frac{3}{4} = \frac{3\times3}{4\times3} = \frac{9}{12}$

Again,

12÷6=2

$\therefore \frac{5}{6} = \frac{5\times2}{6\times2} = \frac{10}{12}$

Same denominator 12

Explanation: If we want to find common denominator of two or more fractions, we have to find out LCM of the denominators of those given fractions. The LCM will be the common denominator of all the given fractions. To make the LCM as common denominator, first we have to divide the LCM by the denominator of a given fraction and then we have to multiply the quotient with the numerator and the denominator of the fraction. We will apply the same process for every fraction. In this way we can get common denominator of all the given fractions.

End