

ANURADHA

B.A.(H) Economics

LNMU (Part-3)

Paper - VIII

Group - A

Dept. of Economics

U.R. College, Raera

Essential Mathematics for Economics

MODULE I : Mathematical Preliminaries

ARITHMETIC Operations (Part-II)

FRACTIONS

A Fraction represents a part of a whole and consists of an integer numerator and a non-zero integer denominator.

The number that sits above the fraction bar and represents the part of the whole number is called numerator.

The number that sits below the fraction bar and represents the whole number is called denominator.

A fraction that is turned upside down so that the numerator and denominator have switched places.

A Ratio of two numbers - a numerator and a denominator - usually written one above the other and separated by a horizontal bar.

A fraction represents a part of a whole.

A common fraction, such as $\frac{1}{2}$, $\frac{8}{5}$ or $\frac{3}{4}$ consists of an integer numerator and

a non-zero integer denominator. The numerator represents a certain number of equal parts of the whole, and the denominator indicates how many of those parts are needed to make up one whole. An example can be seen in the following figure, in which a cake is divided into quarters:

Subtraction

The process for subtracting fractions is, in essence, the same as that for adding them. Find a common denominator, and change each fraction to an equivalent fraction using that common denominator. Then, subtract the numerators.

For instance:

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

Multiplication

Unlike with addition and subtraction, with multiplication the denominators are not required to be the same.

For example:

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

Division

The process for dividing a number by a fraction entails multiplying the number by the fraction's reciprocal.