Fractions

Oleg Petrov

Description

The word fraction is derived from the Latin word *fractio*, which means to break.

A fraction is the indicated quotient of two expressions.

 $\begin{array}{c} a \\ b \end{array} \quad \frac{5}{7} \quad \frac{5xy}{14z} \end{array}$

Arithmetic with fractions

- Equivalent fractions Comparing fractions Subtraction • Addition Multiplication •
- Division •

| 5 10 3 4 | $\frac{1}{2}$ $\frac{2}{4}$ | = <u>10</u> 20 | |
|---------------------------------------|---|---|-------------------|
| $\frac{4}{5}$ - $\frac{1}{2}$ + | $\frac{\frac{2}{5}}{\frac{3}{2}} = \frac{2}{\frac{3}{2}}$ | $\frac{\frac{2}{5}}{\frac{4}{2}} = 2$ | |
| $\frac{1}{4} \times \frac{1}{2} \div$ | $\frac{3}{7} = \frac{1}{4} = \frac{1}{4}$ | $\frac{3}{28}$ $\frac{1}{2} \times \frac{3}{2}$ | $\frac{4}{1} = 2$ |

Forms of fractions

 $\frac{1}{2}$ $\frac{3}{4}$

- Common or simple or vulgar fractions.
- Complex fraction.
- Proper fraction. $\frac{3}{4}, \frac{7}{9}$
- Improper fraction. $\frac{9}{2}, \frac{8}{6}$
- Mixed fraction.

$$2 + \frac{3}{4} = 2\frac{3}{4}$$

 $\frac{1}{2}, \frac{3}{4}, \frac{a}{b}$

Reducible and Irreducible fractions

- Any reducible fraction such as 4/6 in which the numerator and denominator have a common factor greater that the unity.
- Any irreducible fraction is a common fraction such as 2/7 in which the numerator and denominator are relatively primes.



Oleg Petrov e-mail: <u>oleg_petrov@mail.ru</u> tel. +792304028344