

Assignment ii

Instructions to students: The notes provided must be copied to the math's copy & then do the Homework in the same copy.


✚ To get a fraction equivalent to a given fraction, we multiply or divide the numerator & the denominator of the given fraction by the same natural number

✚ Eg: ***write four fractions equivalent to 4/7***

$$\frac{4}{7} = \frac{4 \times 2}{7 \times 2} = \frac{4 \times 3}{7 \times 3} = \frac{4 \times 4}{7 \times 4} = \frac{4 \times 5}{7 \times 5}$$
$$\frac{4}{7} = \frac{8}{14} , \frac{12}{21} , \frac{16}{28} , \frac{20}{35}$$

✚ ***To test whether two given fractions are equivalent or not;***

Let a/b & c/d be two given fractions

Cross multiply as shown: $\frac{a}{b}$  $\frac{c}{d}$

If two cross product are equal i.e.

$ad = bc$, we say that $\frac{a}{b}$ & $\frac{c}{d}$ are equivalent fractions

otherwise they are not equivalent .

Ex : $25/36$ & $5/6$

Cross multiply $\frac{25}{36}$  $\frac{5}{6}$

Here $25 \times 6 = 150$ & $36 \times 5 = 180$

So the cross product are not equal , so

They are not equivalent fractions.

How to reduce the fraction to simplest form;

Step 1. Find the H.C.F. of the numerator & denominator of the given fraction.

Step 2. Divide the numerator & the denominator by H.C.F. to get the given fraction in simplest form .

$$\begin{array}{r} \text{Eg. } 114/513 = 114 \overline{)513} (4 \\ \underline{456} \\ \times 57)114(2 \\ \\ \underline{114} \\ \times \times \times \end{array}$$

$$\text{HCF} = 57 \quad \frac{114}{513} \div \frac{57}{57} = \frac{2}{9}$$

Prime Factorization Method

Step 1. Express each of the numerator and denominator of the given fractions as the product of primes.

Step 2. Cancel the factor that are common to both of its numerator & denominator. Simplify it to get the fraction in lowest term.

$$\text{Eg. } \frac{140}{252} = \frac{\cancel{2} \times \cancel{2} \times 5 \times \cancel{7}}{\cancel{2} \times \cancel{2} \times 3 \times 3 \times \cancel{7}} = \frac{5}{9}$$

Comparing two or more fraction

Step 1. Change the given fraction into like fraction.

Step 2. In these like fraction , the one with larger numerator
Will be bigger.

Step 3. Now all the like fraction may be arranged in ascending
or descending order.

Eg : **Compare the fraction 5/6 & 7/9**

LCM OF 6 & 9 = 18

$$\frac{5}{6} = \frac{5 \times 3}{6 \times 3} = \frac{15}{18} \quad \& \quad \frac{7}{9} = \frac{7 \times 2}{9 \times 2} = \frac{14}{18}$$

$$\frac{15}{18} > \frac{14}{18} \quad \text{Hence} \quad \frac{5}{6} > \frac{7}{9}$$

Home work

Complete Ex. 6.3 {Questions 6, 8, 9 & 10

Ex. 6.4 {Questions 5, 7 & 8 }