

Class 6

Mathematics

Topic Fractions

A fraction is written by a pair of natural numbers say m and n in the form of $\frac{m}{n}$

Where m is called numerator and n is called denominator

$$\text{Fraction} = \frac{\text{numerator}}{\text{denominator}}$$

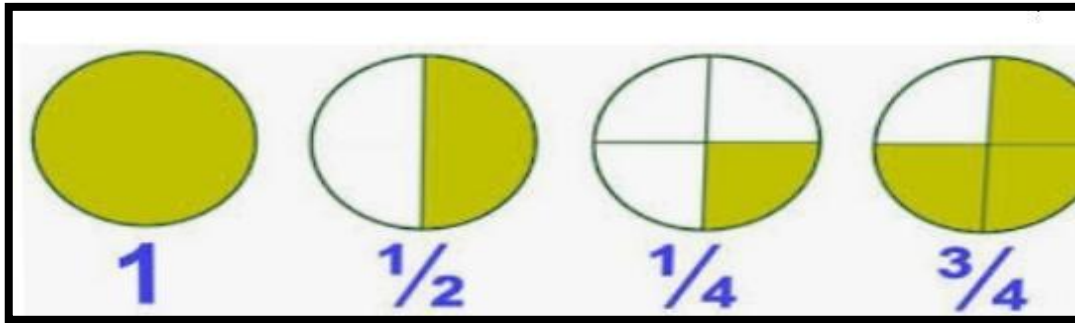
In fractions denominator is never zero

Types of fractions

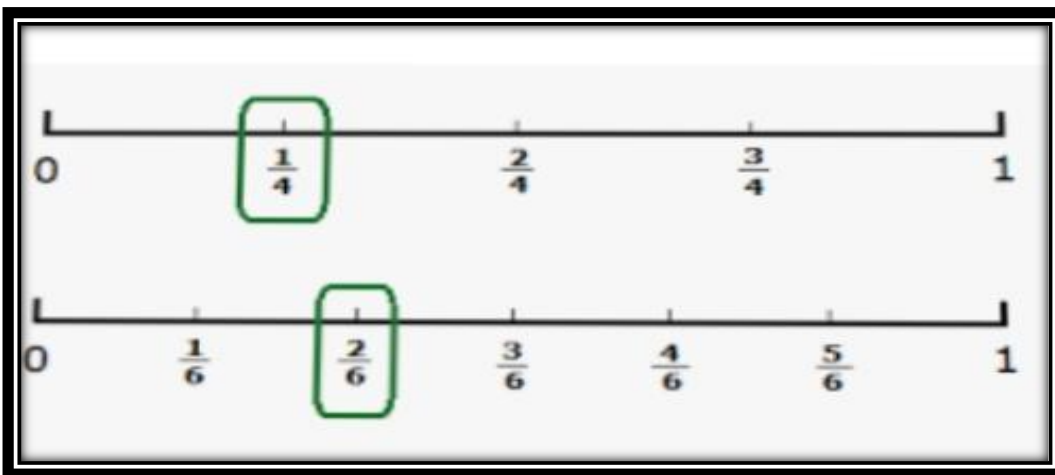
Proper Fraction	Improper Fraction	Mixed Fraction
A fraction whose	A fraction whose	A number consist of

<i>numerator is less than the denominator</i>	numerator is more than the denominator	two parts the integer and a proper fraction
$\frac{2}{5}$ $\frac{11}{50}$	$\frac{9}{5}$ $\frac{12}{7}$	$10\frac{2}{5}$ $450\frac{67}{77}$

- Representation of Fractions
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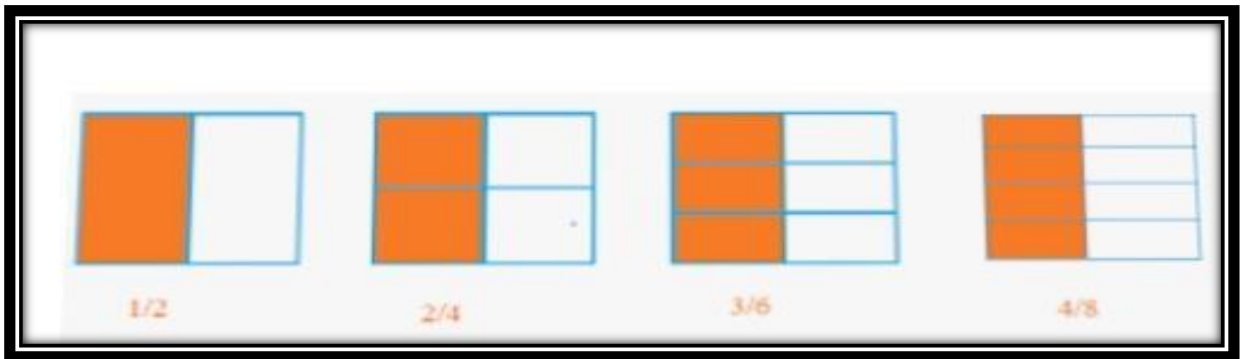


- Representation of Fractions in a
NUMBER LINE



Equivalent Fractions

Two or more fractions are called equivalent fractions if they have same value.



To find an equivalent fraction of a given, we multiple or divide the numerator and denominator by the same non-zero number.

Example:

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

$$\frac{2}{3} = \frac{2 \times 4}{3 \times 4} = \frac{8}{12}$$

- Two equivalent fractions can be written as

$$\frac{a}{b} = \frac{c}{d}$$

$$ad = bc$$

Example:

$$\frac{5}{9} = \frac{30}{[?]}$$

$$\begin{aligned} [?] &= \frac{30 \times 9}{5} \\ &= 54 \end{aligned}$$

- Simplest form of a fraction

HCF of numerator and denominator is done to reduce a fraction to the simplest form.

Example:

To reduce $\frac{169}{289}$ to simplest form.

HCF of 169 and 289.

$$169 = 13 \times 13 \times 1$$

$$289 = 17 \times 17 \times 1$$

HCF is 1

So $\frac{169}{289}$ is in its simplest form.

To reduce $\frac{220}{550}$ into its simplest form.

HCF of , $220 = 2 \times 110$

$$550 = 5 \times 110$$

$$\frac{220}{550} = \frac{220 \div 110}{550 \div 110} = \frac{2}{5}$$

To compare two fractions

- Like fractions – fractions whose denominator is same
- Unlike fractions – fractions whose denominator is different
- Rule to change.

UNLIKE Fractions. to LIKE Fractions

LCM of the denominators are found out then the fractions are converted to equivalent fractions.

Worksheet

1. Write a proper fraction whose numerator is 5 and denominator is 7.
2. Write a proper fraction whose numerator and denominator add up to be 10. Write all possible fractions.
3. How many fractions lie between 0 and 1?
4. Represent $\frac{4}{5}$ on a numberline.
5. Express the improper fraction as mixed fraction $\frac{21}{4}$.
6. Express the mixed fraction as improper fractions $7\frac{3}{10}$
7. Find the equivalent fraction of $\frac{35}{28}$ with numerator 5 and

with denominator 4.

8. *Check if the given fraction is equivalent : $\frac{130}{230}$ and $\frac{1}{2}$*

9. *Write in ascending order*
 $0, \frac{1}{2}, \frac{1}{4}, \frac{1}{6}, \frac{1}{9}, \frac{1}{11}$

10. *Add : $1\frac{2}{3} + 2\frac{3}{4} + 1\frac{1}{2}$*

11. *Subtract : $6\frac{9}{10} - 3\frac{7}{10}$*

12. *Suji's house is $\frac{9}{10}$ km from her school. She took a bus for $\frac{1}{2}$ km to reach school. How far did she walk?*

13. *Rozy bought $\frac{3}{5}$ m of ribbon and Mary bought $\frac{3}{4}$ m ribbon . What is*

the total length of ribbon they bought.
