Unit 10 - Fractions

- ✓ Unit-fractions Numerator equal to 1 $(\frac{1}{3}, \frac{3}{5}, \frac{5}{5})$
- ✓ Proper factions The numerator is always smaller than the denominator. $(\frac{1}{2}, \frac{1}{3}, \frac{1}{12}, \text{ etc})$
- ✓ Mixed fractions The sum of a while number and a proper fraction. $(2\frac{1}{3}, 4\frac{2}{7}, 11\frac{5}{8}, \text{ etc})$
- ✓ Improper fractions If the numerator of a fraction is greater or equal to the denominator.

$$\frac{1}{7}$$
 $\frac{3}{8}$ $\frac{7}{9}$ $\frac{23}{12}$ $\frac{1}{11}$

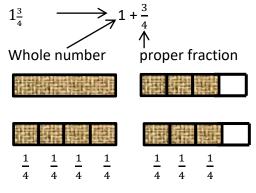
$$3\frac{1}{2} \quad \frac{8}{5} \quad \frac{2}{3} \quad 5\frac{2}{3} \quad \frac{5}{5}$$

Of the fractions given above, choose and write down the following fractions.

- I. Unit fractions
- II. Proper fractions
- III. Mixed numbers
- IV. Improper fractions

✓ Representing a mixed number as an improper fraction

Let us write the mixed number $1\frac{3}{4}$ as an improper fraction.



There are Seven $\frac{1}{4}$ s,

Accordingly
$$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{7}{4}$$
 there for $1\frac{3}{4} = \frac{7}{4}$

✓ $1\frac{3}{4}$ can be represented as following.

Write the mixed number $3\frac{2}{5}$ as an improper fraction

$$3\frac{2}{5}$$

$$=3 + \frac{2}{5}$$

$$=1 + 1 + 1 + \frac{2}{5}$$

$$=\frac{5}{5} + \frac{5}{5} + \frac{5}{5} + \frac{2}{5}$$

$$=\frac{17}{5}$$

$$3\frac{2}{5}$$

$$=\frac{5\times 3+2}{5}$$

$$=\frac{15+2}{5}$$

$$=\frac{17}{5}$$

Express each of the following mixed numbers s an improper fraction **Exercise:**

i)
$$3\frac{1}{2}$$

ii)
$$2\frac{2}{7}$$

iv)
$$4\frac{2}{3}$$

i)
$$3\frac{1}{2}$$
 ii) $2\frac{2}{7}$ iii) $3\frac{1}{5}$ iv) $4\frac{2}{3}$ v) $2\frac{5}{13}$

✓ Expressing an improper fraction as a mixed number

Let us express $\frac{7}{3}$ as a mixed number.

Or
$$\frac{7}{3}$$
 Let's divide The Numerator by Its Denominator
$$=\frac{3+3+1}{3}$$

$$=\frac{3}{3}+\frac{3}{3}+\frac{1}{3}$$

$$=1+1+\frac{1}{3}$$
Or $\frac{7}{3}$ Let's divide The Numerator by Its Denominator
$$=\frac{2}{4}$$
Quotient
$$=\frac{2}{3}$$

$$=2+\frac{1}{3}$$

$$=2+\frac{1}{3}$$
Denominator
$$=2+\frac{1}{3}$$

$$=2+\frac{1}{3}$$

$$=2+\frac{1}{3}$$

Express each of the following improper fractions as a mixed number. **Exercise:**

- i) $\frac{12}{5}$ ii) $\frac{14}{3}$ iii) $\frac{9}{2}$ iv) $\frac{11}{4}$ v) $\frac{47}{11}$

- ✓ Do the revision exercises of the mathematics text book.
- Do the exercise 10.1 of the grade 7 mathematic text book.