

## FLORENCE INTERNATIONAL SCHOOL CLASS- IX WORKSHEET NO: 13 MATHS

#### NAME:

### **TOPIC: NUMBER SYSTEM**

DATE: 16/04/2020

Please follow the link:

https://www.youtube.com/watch?v=FagLmRFZiOo

https://www.youtube.com/watch?v=UnJQiuJzjJU

https://www.youtube.com/watch?v=f1kP7lcEM-Q

https://www.youtube.com/watch?v=kZ5LY8mqBRU

### CONCEPT:

Rational numbers can be represented in decimal forms rather than representing in fractions. They can easily be represented as decimals by just dividing numerator 'p' by denominator 'q' (as rational numbers is in the form of p/q).

A rational number can be expressed as a terminating or nonterminating, recurring decimal.

For example :(i)  $\frac{5}{2} = 2.5$ ,  $\frac{2}{8} = 0.25$ ,

7 = 7.0, etc., are rational numbers which are terminating decimals.

 $\frac{4}{3} = 1.33333.... = 1.3$ ;

 $\frac{1}{6} = 0.166666 \dots = 0.16^{\circ}$ 

 $\frac{9}{11}$  = 0.818181..... = 0.81 etc., are rational numbers which are nonterminating, recurring decimals.

Representation of rational numbers in decimal fractions makes calculations more easier as compared to that in case of improper rational fractions.

Now let us have a look at following examples:

**1.** Convert 1.333... into rational fraction.

#### Solution:

Step I: Let x = 1.333 Step II: Repeating digit is '3'

Step III: Placing repeating digit on the left side of the decimal point can be done by multiplying the

original number by 10, i.e.,

10x = 13.333

x = 1.333

Step V: So, our two equations are:

10x = 13.333

⇒ x = 1.333

On subtracting both sides of the equation, we get:

10x - x = 13.333 - 1.333

 $\Rightarrow$  9x = 12

$$\Rightarrow$$

$$x = \frac{12}{9} \implies x = \frac{4}{3}$$
.

Hence, the required rational fraction is  $\frac{4}{3}$ .

# EXERCISE: Do the given question in notebook.

- Q1. Express the following numbers in the form of  $\frac{p}{q}$  where p and q are integers and q  $\neq$ 0:
  - (a) .6666.... or .6
  - (b) 0.47
  - (c) 0.001
  - (d) 0.9
- Q2. Write the following in the decimal form and say what kind of expansion each has
  - (a)  $\frac{36}{100}$  (b)  $\frac{1}{11}$  (c)  $4\frac{1}{8}$  (d)  $\frac{3}{18}$  (e)  $\frac{2}{11}$  (f)  $\frac{329}{400}$ .
- **Q3.** Visualise 3.765 on the number line using successive magnification.
- **Q4.** Visualise 4.26 on the number line up to four decimal places.
- **Q5.** Visualise 6.75 on the number line using successive magnification.
- **Q6.** Visualise 5.7314 on the number line using successive magnification.

