

Mathematics

(www.tiwariacademy.com)

(Chapter – 1)(Number Systems)

(Class – 9)

Exercise 1.1

Question 1:

Is zero a rational number? Can you write it in the form $\frac{p}{q}$, where p and q are integers and $q \neq 0$?

Answer 1:

Yes, zero is a rational number. It can be written in the form of $\frac{p}{q}$. For example: $\frac{0}{1}$, $\frac{0}{2}$, $\frac{0}{5}$ are rational numbers, where p and q are integers and $q \neq 0$.

Question 2:

Find six rational numbers between 3 and 4.

Answer 2:

First Method: To get six rational number between 3 and 4, the denominator must be $6 + 1 = 7$.

Here, $3 = \frac{3 \times 7}{7} = \frac{21}{7}$ and $4 = \frac{4 \times 7}{7} = \frac{28}{7}$

So, the six rational can be obtained by changing numerator from 22 to 27.

Therefore, the rational numbers are: $\frac{22}{7}$, $\frac{23}{7}$, $\frac{24}{7}$, $\frac{25}{7}$, $\frac{26}{7}$, $\frac{27}{7}$

Second Method: six rational numbers between 3 and 4 are 3.1, 3.2, 3.3, 3.4, 3.5 and 3.6

Question 3:

Find five rational numbers between $\frac{3}{5}$ and $\frac{4}{5}$.

Answer 3:

By converting these numbers into decimal, we have

$\frac{3}{5} = 0.6$ and $\frac{4}{5} = 0.8$

Hence, five rational numbers between $\frac{3}{5}$ and $\frac{4}{5}$ are 0.61, 0.62, 0.63, 0.64 and 0.65.

Question 4:

State whether the following statements are true or false. Give reasons for your answers.

(i) Every natural number is a whole number.

(ii) Every integer is a whole number.

(iii) Every rational number is a whole number.

Answer 4:

(i) True, as whole number is the collection of Natural numbers and 0.

(ii) False, because negative integers are not whole numbers.

(iii) False, rational numbers like $\frac{3}{5}$, $\frac{2}{3}$, $\frac{7}{9}$ are not the whole numbers.

www.tiwariacademy.com

A Step towards free Education