Number System Ex 1.1 Q1

Answer :

Yes, zero is a rational number because it is either terminating or non-terminating so we can write in the form of $\frac{p}{q}$, where p and q are natural numbers and q is not equal to zero.

So,

$p = 0, q = 1, 2, 3....$

Therefore,

$\frac{p}{q} = \frac{0}{1} or \frac{0}{2} or \frac{0}{3}....$

Number System Ex 1.1 Q2

Answer :

We need to find 5 rational numbers between 1 and 2.

Consider,

$1 = \frac{1}{1}$

$\Rightarrow 1 = \frac{1}{1} \times \frac{6}{6}$

$\Rightarrow 1 = \frac{6}{6}$

And

$\Rightarrow 2 = \frac{2}{1}$

$\Rightarrow 2 = \frac{2}{1} \times \frac{6}{6}$

$\Rightarrow 2 = \frac{12}{6}$

So, five rational numbers between 66 and 126 will be 76, 86, 96, 106, 116.

Hence 5 rational numbers between 1 and 2 are: $\boxed{\frac{7}{6}, \frac{8}{6}, \frac{9}{6}, \frac{10}{6}, \frac{11}{6}}$ OR $\boxed{\frac{7}{6}, \frac{4}{3}, \frac{3}{2}, \frac{5}{3}, \frac{11}{6}}$.

Number System Ex 1.1 Q3

Answer :

We need to find 6 rational numbers between 3 and 4.

Consider,

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

$$\Rightarrow 3 = \frac{3}{1} \times \frac{7}{7}$$

$$\Rightarrow 3 = \frac{21}{7}$$

And

$$4 = \frac{4}{1}$$

$$\Rightarrow 4 = \frac{4}{1} \times \frac{7}{7}$$

$$\Rightarrow 4 = \frac{28}{7}$$

So, six rational numbers between 217 and 287 will be $\boxed{\frac{22}{7}, \frac{23}{7}, \frac{24}{7}, \frac{25}{7}, \frac{26}{7}, \frac{27}{7}}$.

Hence 6 rational numbers between 3 and 4 are $\boxed{\frac{22}{7}, \frac{23}{7}, \frac{24}{7}, \frac{25}{7}, \frac{26}{7}, \frac{27}{7}}$.

********** END **********