



Representation of the Rational Numbers

A **fraction** is any number of the form $\frac{a}{b}$ where both “a” and “b” are whole numbers and $b \neq 0$.

- A **rational number** is a number that is in the form of $\frac{p}{q}$ where both “p” and “q” are integers and $q \neq 0$.
- An **irrational number** is a number that cannot be expressed in the form of $\frac{p}{q}$, where p and q are integers, $q \neq 0$.
- **Positive rational numbers:** A rational number is said to be positive when the numerator and the denominator are both either positive or negative.
For example, $\frac{1}{2}, \frac{2}{5}, \frac{-1}{-2}, \frac{-3}{-13}, \dots$
- **Negative rational numbers:** A rational number is said to be negative if its numerator and denominator have opposite signs.
For example, $\frac{-1}{2}, \frac{-2}{5}, \frac{3}{-5}, \frac{7}{-11}, \dots$

1. Which of the following statements is true for a rational number $\frac{a}{b}$
 - a) The numerator ‘a’ cannot be 1
 - b) The denominator ‘b’ can be a decimal number
 - c) The denominator ‘b’ cannot be a prime number
 - d) The denominator ‘b’ cannot be 0
2. Choose all the correct options: A rational number is represented in the form of
 - a) decimals
 - b) fractions
 - c) $\frac{a}{b}$
 - d) integers
3. To plot the positive rational numbers on the number line, we move towards _____ of the 0
 - a) up
 - b) left
 - c) right
 - d) down
4. To plot the $\frac{1}{5}$ on the number line, how many total divisions should be shown on the number line between 0 and 1?
 - a) 7
 - b) -5
 - c) 5
 - d) 2



5. *If numerator and denominator have opposite signs, then the given rational number is*

- a) positive b) negative c) 0 d) unknown

6. *Interpret :*

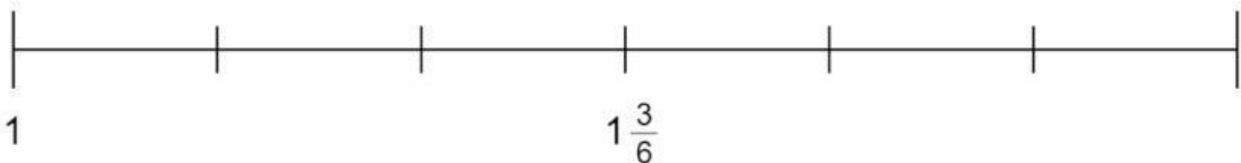
A. The quotient of two integers is always a rational number

B. $\frac{1}{0}$ is not a rational number

- a) Both A and B are true
b) Both A and B are false
c) A is true and B is false
d) A is false and B is true

7. *Represent the rational numbers (fractions) on the number line*

$1\frac{5}{6}$, $1\frac{2}{6}$, 2 , $1\frac{1}{6}$, $1\frac{4}{6}$



8. *Represent the rational numbers (decimals) on the number line*

0.4 , 0.1 , 0.5 , 0.2 , 0.7 , 0.9 , 0.3 , 0.6

