



SpeedLabs

MATHS

CBSE 9th

TEEVRA EDUTECH PVT. LTD.

1. State whether the following statements are true or false. Justify your answers.

(i) Every irrational number is a real number.

(ii) Every point on the number line is of the form \sqrt{m} , where m is a natural number.

(iii) Every real number is an irrational number.

Ans - (i) True; since the collection of real numbers is made up of rational and irrational numbers.

(ii) False; as negative numbers cannot be expressed as the square root of any other number.

(iii) False; as real numbers include both rational and irrational numbers. Therefore, every real number cannot be an irrational number.

2. Are the square roots of all positive integers irrational? If not, give an example of the square root of a number that is a rational number.

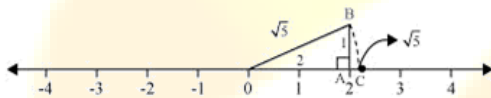
Ans - If numbers such as $\sqrt{4} = 2$ $\sqrt{9} = 3$ are considered,

Then here, 2 and 3 are rational numbers. Thus, the square roots of all positive integers are not irrational.

3. Show how $\sqrt{5}$ can be represented on the number line.

Ans - We know that, $\sqrt{4} = 2$

And, $\sqrt{5} = \sqrt{(2)^2 + (1)^2}$



Mark a point 'A' representing 2 on number line. Now, construct AB of unit length perpendicular to OA.

Then, taking O as centre and OB as radius, draw an arc intersecting number line at C.

C is representing $\sqrt{5}$.