

Class 9th  
Maths  
Chapter 1  
Real number

Q1 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.

Answer. (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.

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Q2 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.

Answer. 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.

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Q3 Show how  $\sqrt{5}$  can be represented on the number line.

Answer.

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

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

## Using pencil



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  $\sqrt{5}$ .

Homework- Practice question number 3 in your notebook by using pencil.