STD – 9 MATHS

CHAPTER - 1

NUMBER SYSTEM

EXERCISE - 1.2

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

(i) Every irrational number is a real number.

➢ **True.**

Sol. All irrational and rational numbers together make up the collection of real numbers R.

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

➢ False

Sol. e.g. between $\sqrt{2}$ and $\sqrt{3}$ there are infinitely many numbers and these can not be represented in the form $\sqrt{m}$, where m is a natural number.

(iii) Every real number is an irrational number.

- **False**

Sol. All rational numbers are also real numbers.

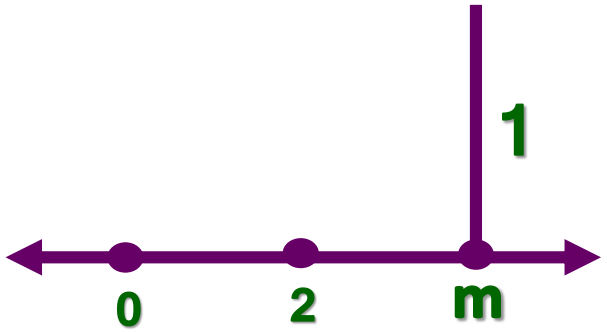
Q.2. Are the square roots of all positive integers irrational ? If not, give an example of the square root of a number that is a rational number.

Sol. Square roots of positive integers are not irrational. For example, $\sqrt{4} = 2$, which is a rational number.

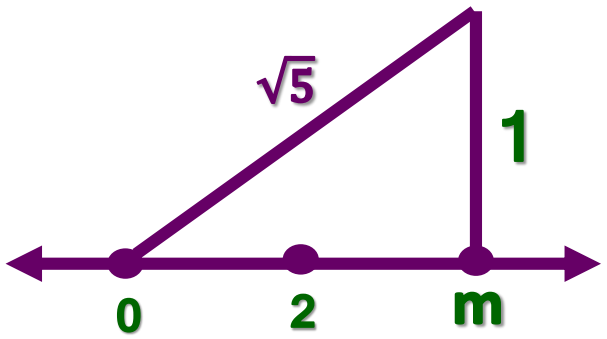
Q.3. Show how $\sqrt{5}$ can be represented on the number line.

Sol. To represent $\sqrt{5}$ on the number line we take a length of two units from O on the number line in positive direction

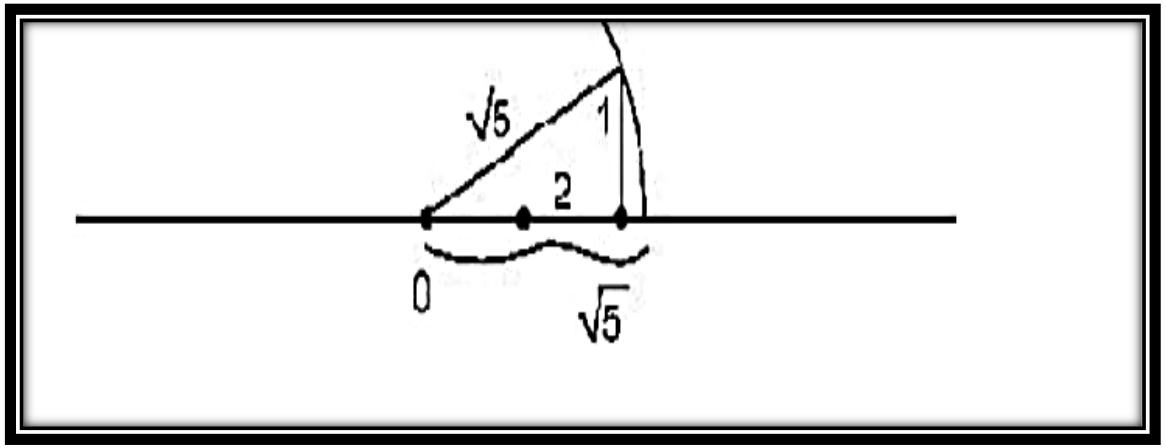
Take one unit perpendicular to number line.



The hypotenuse of the triangle thus formed is of length $\sqrt{5}$.



Then with the help of a divider a length equal to the hypotenuse of $\sqrt{5}$ units can be cut on the number line.



Thanks

For watching