



CLASS IX: MATHS  
Chapter 1: Number System

Questions and Solutions | EXERCISE 1.2 - NCERT Books

**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.

**Sol.** (i) True, since collection of real numbers consists of rationals and irrationals.  
 (ii) False, because no negative number can be the square root of any natural number.  
 (iii) False, 2 is real but not irrational.

**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.

**Sol.** No,  $\sqrt{4} = 2$  is a rational number.

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

**Sol.**  $\sqrt{5}$  on Number line.

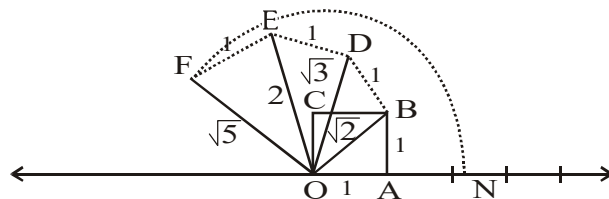
OABC is unit square

So,  $OB = \sqrt{1^2 + 1^2} = \sqrt{2}$

$OD = \sqrt{(\sqrt{2})^2 + 1} = \sqrt{3}$

$OE = \sqrt{(\sqrt{3})^2 + 1} = 2$

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



Using compass we can cut arc with centre O and radius = OF on number line. ON is required result.