

Q14. Prove the following statement by contradiction method.

p : The sum of an irrational number and a rational number is irrational.

Sol. Let p be false i.e., sum of an irrational and a rational number is rational.

Let \sqrt{m} is irrational and n is rational number.

$$\Rightarrow \quad \sqrt{m} + n = r \quad \text{[rational]}$$

$$\Rightarrow \quad \sqrt{m} = r - n$$