

Que2E:

In a group of students 100 students know Hindi, 50 know English and 25 know both. Each of the students knows either Hindi or English. How many students are there in the group?

Ans:

Let E be the set of all students who know English.

and H be the set of all students who know Hindi.

Number of students who know Hindi = $n(H) = 100$

Number of students who know English = $n(E) = 50$

Number of students who know both Hindi and English = $n(H \cap E)$
 $= 25$

Since, each of the students know Hindi or English

Number of students in group

= Number of students who know Hindi or English

$$= n(H \cup E)$$

We know that $n(H \cup E) = n(H) + n(E) - n(H \cap E)$

$$= 100 + 50 - 25$$

$$= 125$$

Hence, there are **125 students** in the group.