

* Tips and Tricks to learn from IIT students

Tip 1: PIE formula for $n=2$, we know.
but sometimes ~~is~~ not only $A \cup B$ is asked there can be many things to ask in exam.

Example:- $A \Delta B \rightarrow$ called symmetric difference

1. $A \Delta B = (A - B) \cup (B - A)$

2. $A \cup B$

3. $A \cap B$

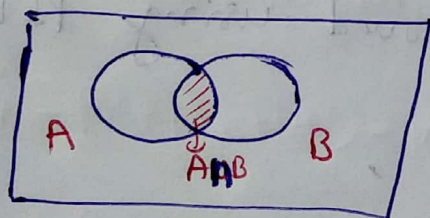
4. $A - B$

So any one thing can be computed from other things by some formulas but remembering formula for each not a good choice.

So what we can do just understand what is geometric meaning of this operation in Venn diagram, and then we can derive formula for the thing we have to find in terms of given things.

for example:-

we know that



$$|A \cup B| = |A| + |B| - |A \cap B|$$

but we can make many more formula for the same.

as $|A \cup B| = |A - B| + |B - A| + |A \cap B|$

or $|A \cup B| = |A| + |B - (A \cap B)|$

or $|A \cup B| = |B| + |A - (A \cap B)|$

in the similar fashion, many formulas we can make using Venn diagrams depending on our need.

So must remember, geometric meaning of each operation, which is/will be taught in this chapter.

TIPS 2: make good effort, for practice problems because, question will not directly formula based many times in exams. So get used to the Venn diagrams approach, or geometric interpretation approach of problem solving for P.I.E.

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TIPS is same as given above but since in this lecture we have seen also three applications in different branches of mathematics & keep in mind that application. because many time the result we get in this lecture are get used for problems solving.

* Proof not need to remember for the application part. but keep in mind what approach we have used to prove the results.