#Jenny

Finally I get this ebook, thanks for all these I can get now!

#Rio

Cool! I'am really happy

#Markus Jensen

I did not think that this would work, my best friend showed me this website, and it does! I get my most wanted eBook

#Hun Tsu

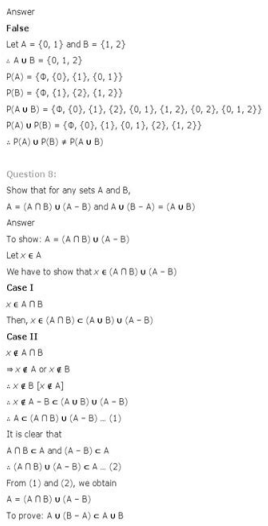
wtf this great ebook for free?!

#Che Salsa

My friends are so mad that they do not know how I have all the high quality ebook which they do not!

#Diego Butler

so many fake sites. this is the first one which worked! Many thanks



Answer

False

Let A = {0, 1} and B = {1, 2}

∴ A ∪ B = {0, 1, 2}

P(A) = {Φ, {0}, {1}, {0, 1}}

P(B) = {Φ, {1}, {2}, {1, 2}}

P(A ∪ B) = {Φ, {0}, {1}, {2}, {0, 1}, {1, 2}, {0, 2}, {0, 1, 2}}

P(A) ∪ P(B) = {Φ, {0}, {1}, {0, 1}, {2}, {1, 2}}

∴ P(A) ∪ P(B) ≠ P(A ∪ B)

Question 8:

Show that for any sets A and B,

A = (A ∩ B) ∪ (A − B) and A ∪ (B − A) = (A ∪ B)

Answer

To show: A = (A ∩ B) ∪ (A − B)

Let $x \in A$

We have to show that $x \in (A \cap B) \cup (A - B)$

Case I

$x \in A \cap B$

Then, $x \in (A \cap B) \subset (A \cup B) \cup (A - B)$

Case II

$x \notin A \cap B$

$\Rightarrow x \notin A$ or $x \notin B$

$\therefore x \notin B$ [$x \notin A$]

$\therefore x \notin A - B \subset (A \cup B) \cup (A - B)$

$\therefore A \subset (A \cap B) \cup (A - B)$ ... (1)

It is clear that

$A \cap B \subset A$ and $(A - B) \subset A$

$\therefore (A \cap B) \cup (A - B) \subset A$ ... (2)

From (1) and (2), we obtain

A = (A ∩ B) ∪ (A − B)

To prove: A ∪ (B − A) ⊂ A ∪ B

Download PDF version of :

Solution For Cbse Math Class 11 Sets