

Prove that- $A \cap (B \cup C) = (A \cap B) \cup (A \cap C)$

Prove that-

$$A \cap (B \cup C) = (A \cap B) \cup (A \cap C)$$

Let $x \in A \cap (B \cup C)$.

Then $x \in A$ and $x \in (B \cup C)$.

$(x \in A \text{ and } x \in B) \text{ or } (x \in A \text{ and } x \in C)$.

$x \in (A \text{ and } B) \text{ or } x \in (A \text{ and } C)$.

$x \in (A \cap B) \cup (A \cap C)$.

Related posts:

1. SET
2. Mathematical induction
3. Relation
4. Net 34
5. prove that- $A \cap (B \cap C) = (A \cap B) \cap (A \cap C)$
6. prove that - $(A \cap B) \cap (C \cap D) = (A \cap C) \cap (B \cap D)$
7. Show that- $(P \cap Q) \cap (R \cap S) = (P \cap R) \cap (Q \cap S)$
8. Binary operations
9. Algebraic structure
10. Group
11. Show that $\{\dots, -4, -3, -2, -1, 0, 1, 2, 3, 4, \dots\}$ is group
12. Show that $a * b = b * a$
13. if $a * c = c * a$ and $b * c = c * b$, then $(a * b) * c = c * (a * b)$
14. Undirected Graph and Incident Matrix
15. Prove the following by using the principle of mathematical induction for all $n \in \mathbb{N}$, $1^3 +$

Prove that- $A \cap (B \cup C) = (A \cap B) \cup (A \cap C)$

$$2^3 + 3^3 + \dots + n^3 = [n(n+1)/2]^2$$

16. Prove that $G = \{-1, 1, i, -i\}$ is a group under multiplication.

17. Hasse diagram for the “less than or equal to” relation on the set $S = \{0, 1, 2, 3, 4, 5\}$