Lecture Title

Description of the lecture

1. A set A is a subset of B, ACB, if $a \in A \implies a \in B$
2. Two sets are equal, $A = B$, if $A \subseteq B$ and $B \subseteq A$
3. A is a proper subset of B, ASB, if ACB and $A \neq ASB$
4. Set building notation $\{x \mid P(x)\}$

1. $N = \{1, 2, 3, 4, \ldots\}$
2. $Z = \{0, 1, -1, -2, \ldots\}$
3. $Q = \{m \div n \mid m, n \in Z, n \neq 0\}$
4. R = {real numbers $\cup$ {irrational numbers}} along with irrationals like $\pi, \sqrt{2}, \ldots$
5. $N = \{2m - 1 \mid m \in N\}$
6. $C = \{1, 3, 5, \ldots\}$

1. The union of A, B is the set $A \cup B = \{x \mid x \in A \text{ or } x \in B\}$
2. The intersection of A, B is the set $A \cap B = \{x \mid x \in A \text{ and } x \in B\}$
3. The set $P(x)$