

系所：_____ 學號：_____ 姓名：_____ (4/17)

Suppose that $(K, \cdot, +)$ is a Boolean algebra. Prove that the identity and zero are unique.

Sol. If 1 and $1'$ are two identities, then $1 = 1' \cdot 1 = 1'$.

Similarly, if 0 and $0'$ are two zeros, then $0 = 0' + 0 = 0'$.

(Or the uniqueness of zero is as a consequence of the principle of duality.)