Proove the multiplication in $\mathbb{N}$ is an internal composition law.
$\forall (x, y) \in \mathbb{N}, x * y \in \mathbb{N} \Rightarrow *$ is an ICL over $\mathbb{N}$

Proove that $\circ$ is an ICL in G^G.
$\forall (f, g) \in G^G, f \circ g : G \mapsto G$
$\Rightarrow \circ$ is an ICL over G^G

Proove the $\cup, \cap$ are an ICL over $P(E)$.
$(\forall (A, B) \in P(E)^2, \forall x \in A \cap B \Rightarrow x \in E)$
$\Rightarrow A \cap B \in P(E)$

$(\forall (A, B) \in P(E)^2, \forall x \in A \cup B \Rightarrow x \in E)$
$\Rightarrow A \cup B \in P(E)$