Practice!

- (1) Write a formula $\varphi_{z=(x,y)}(x,y,z)$ that expresses z = (x,y).
- (2) Prove that (x, y) = (u, v) holds iff x = u and y = v.
- (3) Write a formula $\varphi_{C \in A \times B}(A, B, C)$ that expresses $C \in A \times B$.
- (4) (a) Give examples of a set A satisfying $A \subseteq \mathcal{P}(A)$ and a set B satisfying $B \not\subseteq \mathcal{P}(B)$.
 - (b) How many three-element sets A satisfy $A \subseteq \mathcal{P}(A)$?