

Ax. 1. $(P(\varphi) \wedge \Box \forall x(\varphi(x) \Rightarrow \psi(x))) \Rightarrow P(\psi)$

Ax. 2. $P(\neg\varphi) \Leftrightarrow \neg P(\varphi)$

Th. 1. $P(\varphi) \Rightarrow \Diamond \exists x \varphi(x)$

Df. 1. $G(x) \Leftrightarrow \forall \varphi(P(\varphi) \Rightarrow \varphi(x))$

Ax. 3. $P(G)$

Th. 2. $\Diamond \exists x G(x)$

Df. 2. $\varphi \text{ ess } x \Leftrightarrow \varphi(x) \wedge \forall \psi(\psi(x) \Rightarrow \Box \forall y(\varphi(y) \Rightarrow \psi(y)))$

Ax. 4. $P(\varphi) \Rightarrow \Box P(\varphi)$

Th. 3. $G(x) \Rightarrow G \text{ ess } x$

Df. 3. $E(x) \Leftrightarrow \forall \varphi(\varphi \text{ ess } x \Rightarrow \Box \exists y \varphi(y))$

Ax. 5. $P(E)$

Th. 4. $\Box \exists x G(x)$