

t10_orders_1 (TMLaHsAe-
MEU59ckv9A5sYCFkR2AYENdWVve)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $r8_relat_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(r8_relat_2 X0 X1) \Leftrightarrow (\forall X2. \\ & \forall X3.\forall X4.((X2 \in X1) \wedge ((X3 \in X1) \wedge ((X4 \in X1) \wedge ((k4_tarski \\ & X2 X3 \in X0) \wedge (k4_tarski X3 X4 \in X0)))))) \Rightarrow (k4_tarski X2 X4 \in X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \quad (2)$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.(v1_relat_1 X2) \Rightarrow (((r8_relat_2 X2 X0) \wedge (r1_tarski X1 X0)) \Rightarrow (r8_relat_2 X2 X1))$$