

t49_relat_1

(TMUgai4UEKSoeU7pdCcDn7fu8RRhQAspawt)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_relat_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.v1_relat_1 (k4_relat_1 X0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.v1_relat_1 (k3_relat_1 X0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(v1_relat_1 X2) \Rightarrow ((X2 = k3_relat_1 \\ X0 X1) \Leftrightarrow (\forall X3.\forall X4.(k4_tarski X3 X4 \in X2) \Leftrightarrow (\exists X5. \\ (k4_tarski X3 X5 \in X0) \wedge (k4_tarski X5 X4 \in X1)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(v1_relat_1 X1) \Rightarrow ((X1 = k4_relat_1 X0) \Leftrightarrow (\\ \forall X2.\forall X3.(k4_tarski X2 X3 \in X1) \Leftrightarrow ((X2 \in X0) \wedge (X2 = X3)))) \end{aligned} \quad (4)$$

Theorem 1

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.(v1_relat_1 X3) \Rightarrow \\ ((k4_tarski X0 X1 \in k3_relat_1 X3 (k4_relat_1 X2)) \Leftrightarrow ((X1 \in X2) \wedge (k4_tarski \\ X0 X1 \in X3))) \end{aligned}$$