

t147\_relat\_1 (TM-  
PCA9owuFyHHUmhS2Bt8cHdxo7emDt4pAM)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. v1\_relat\_1 (k3\_relat\_1 X0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (v1\_relat\_1 X2) \Rightarrow ((X2 = k3\_relat\_1 \\ X0 X1) \Leftrightarrow (\forall X3. \forall X4. (k4\_tarski X3 X4 \in X2) \Leftrightarrow (\exists X5. \\ (k4\_tarski X3 X5 \in X0) \wedge (k4\_tarski X5 X4 \in X1)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. (v1\_relat\_1 X0) \Rightarrow (\forall X1. \forall X2. (X2 = k8\_relat\_1 \\ X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow (\exists X4. (k4\_tarski X3 X4 \in X0) \wedge \\ (X4 \in X1)))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (X1 = k9\_xtuple\_0 X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (\exists X3. k4\_tarski X2 X3 \in X0)) \quad (4)$$

**Theorem 1**

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow (\forall X1. (v1\_relat\_1 X1) \Rightarrow (k9\_xtuple\_0 (k3\_relat\_1 X0 X1) = k8\_relat\_1 X0 (k9\_xtuple\_0 X1)))$$