

t27\_relat\_2  
(TMYDQFvs7JU2LNgCLc4ShnZ88hcmx4456TZ)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v8\_relat\_2 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_relat\_1 : \iota \Rightarrow \iota$  be given. Let  $r8\_relat\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (v1\_relat\_1 X2) \Rightarrow ((k4\_tarski X0 X1 \in X2) \Rightarrow ((X0 \in k1\_relat\_1 X2) \wedge (X1 \in k1\_relat\_1 X2))) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. v1\_relat\_1 (k3\_relat\_1 X0 X1) \quad (2)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow (\forall X1. (r8\_relat\_2 X0 X1) \Leftrightarrow (\forall X2. \forall X3. \forall X4. ((X2 \in X1) \wedge ((X3 \in X1) \wedge ((X4 \in X1) \wedge ((k4\_tarski X2 X3 \in X0) \wedge (k4\_tarski X3 X4 \in X0)))))) \Rightarrow (k4\_tarski X2 X4 \in X0))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (v1\_relat\_1 X2) \Rightarrow ((X2 = k3\_relat\_1 X0 X1) \Leftrightarrow (\forall X3. \forall X4. (k4\_tarski X3 X4 \in X2) \Leftrightarrow (\exists X5. (k4\_tarski X3 X5 \in X0) \wedge (k4\_tarski X5 X4 \in X1)))) \quad (4)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow (\forall X1. (r1\_tarski X0 X1) \Leftrightarrow (\forall X2. \forall X3. (k4\_tarski X2 X3 \in X0) \Rightarrow (k4\_tarski X2 X3 \in X1))) \quad (5)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow ((v8\_relat\_2 X0) \Leftrightarrow (r8\_relat\_2 X0 (k1\_relat\_1 X0))) \quad (6)$$

**Theorem 1**

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow ((v8\_relat\_2 X0) \Leftrightarrow (r1\_tarski (k3\_relat\_1 X0 X0) X0))$$