

t65\_relat\_1 (TMY-  
duUC5VbfDHq7eKhqNP3ajpGgPoWmYG15)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_relat\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (v1\_relat\_1 X3) \Rightarrow \\ & ((k4\_tarski X0 X1 \in k3\_relat\_1 (k4\_relat\_1 X2) X3) \Leftrightarrow ((X0 \in X2) \wedge (k4\_tarski \\ & \quad X0 X1 \in X3))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. v1\_relat\_1 (k3\_relat\_1 X0 X1) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. (v1\_relat\_1 X0) \Rightarrow (\forall X1. \forall X2. (v1\_relat\_1 \\ & X2) \Rightarrow ((X2 = k5\_relat\_1 X0 X1) \Leftrightarrow (\forall X3. \forall X4. (k4\_tarski \\ & X3 X4 \in X2) \Leftrightarrow ((X3 \in X1) \wedge (k4\_tarski X3 X4 \in X0)))))) \end{aligned} \tag{3}$$

**Theorem 1**

$$\forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow (k5\_relat\_1 X1 X0 = k3\_relat\_1 (k4\_relat\_1 X0) X1)$$