

t4\_sysrel  
(TMNGxXh5Fheph9Gyp8sC4VLkgpKbs4WJhfJ)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_relat\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. (k4\_tarski X0 X1 \in k2\_zfmisc\_1 X2 X3) \Leftrightarrow ((X0 \in X2) \wedge (X1 \in X3)) \quad (1)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow (v1\_relat\_1 (k2\_relat\_1 X0)) \quad (2)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow (\forall X1. (v1\_relat\_1 X1) \Rightarrow ((X1 = k2\_relat\_1 X0) \Leftrightarrow (\forall X2. \forall X3. (k4\_tarski X2 X3 \in X1) \Leftrightarrow (k4\_tarski X3 X2 \in X0)))) \quad (3)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow (\forall X1. (r1\_tarski X0 X1) \Leftrightarrow (\forall X2. \forall X3. (k4\_tarski X2 X3 \in X0) \Rightarrow (k4\_tarski X2 X3 \in X1))) \quad (4)$$

**Theorem 1**

$$\forall X0. \forall X1. \forall X2. (v1\_relat\_1 X2) \Rightarrow ((r1\_tarski X2 (k2\_zfmisc\_1 X0 X1)) \Rightarrow (r1\_tarski (k2\_relat\_1 X2) (k2\_zfmisc\_1 X1 X0)))$$