

t53\_relat\_1 (TMGRQd-  
cde2FXr2e797Dc9zvGoWbEKSGzK4L)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_relat\_1 : \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_relat\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow ((r1\_tarski (k9\_xtuple\_0 X1) X0) \Rightarrow (k3\_relat\_1 (k4\_relat\_1 X0) X1 = X1)) \quad (1)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow (\forall X1. (v1\_relat\_1 X1) \Rightarrow (k2\_relat\_1 (k3\_relat\_1 X0 X1) = k3\_relat\_1 (k2\_relat\_1 X1) (k2\_relat\_1 X0))) \quad (2)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow ((k10\_xtuple\_0 X0 = k9\_xtuple\_0 (k2\_relat\_1 X0)) \wedge (k9\_xtuple\_0 X0 = k10\_xtuple\_0 (k2\_relat\_1 X0))) \quad (3)$$

Assume the following.

$$\forall X0. k2\_relat\_1 (k4\_relat\_1 X0) = k4\_relat\_1 X0 \quad (4)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow (k2\_relat\_1 (k2\_relat\_1 X0) = X0) \quad (5)$$

Assume the following.

$$\forall X0. v1\_relat\_1 (k4\_relat\_1 X0) \quad (6)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow (v1\_relat\_1 (k2\_relat\_1 X0)) \quad (7)$$

**Theorem 1**

$$\forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow ((r1\_tarski (k10\_xtuple\_0 X1) X0) \Rightarrow (k3\_relat\_1 X1 (k4\_relat\_1 X0) = X1))$$