

t11\_pnproc\_1  
(TMG1opARLqDq5vHaQfbA1x58cmvBf6sPP6t)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k6\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow ((k4\_tarski X0 X1 \in X2) \Leftrightarrow ((X0 \in k9\_xtuple\_0 X2) \wedge (X1 = k1\_funct\_1 X2 X0))) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((v1\_relat\_1 (k6\_relat\_1 X0 X1)) \wedge (v1\_funct\_1 (k6\_relat\_1 X0 X1))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v1\_relat\_1 (k5\_relat\_1 X0 X1)) \wedge (v1\_funct\_1 (k5\_relat\_1 X0 X1))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow (v1\_relat\_1 (k6\_relat\_1 X0 X1)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 X0) \Rightarrow (v1\_relat\_1 (k5\_relat\_1 X0 X1)) \quad (5)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. \forall X2. (X2 = k8\_relat\_1 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in k9\_xtuple\_0 X0) \wedge (k1\_funct\_1 X0 X3 \in X1)))) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(v1\_relat\_1 X1) \Rightarrow (\forall X2.(v1\_relat\_1 \\ X2) \Rightarrow ((X2 = k6\_relat\_1 X0 X1) \Leftrightarrow (\forall X3.\forall X4.(k4\_tarski \\ X3 X4 \in X2) \Leftrightarrow ((X4 \in X0) \wedge (k4\_tarski X3 X4 \in X1)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_relat\_1 X0) \Rightarrow (\forall X1.\forall X2.(v1\_relat\_1 \\ X2) \Rightarrow ((X2 = k5\_relat\_1 X0 X1) \Leftrightarrow (\forall X3.\forall X4.(k4\_tarski \\ X3 X4 \in X2) \Leftrightarrow ((X3 \in X1) \wedge (k4\_tarski X3 X4 \in X0)))))) \end{aligned} \quad (8)$$

**Theorem 1**

$$\begin{aligned} \forall X0.\forall X1.((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (k6\_relat\_1 \\ X0 X1 = k5\_relat\_1 X1 (k8\_relat\_1 X1 X0)) \end{aligned}$$