

t1\_aofa\_000

(TMUBVg2zuRvBtEiqqLfKDoibf7PwmE8hwza)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((X0 \in k9\_xtuple\_0 X1) \Rightarrow (k1\_funct\_1 X1 X0 \in k10\_xtuple\_0 X1)) \quad (1)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow (\forall X1. (v1\_relat\_1 X1) \Rightarrow ((r1\_tarski (k10\_xtuple\_0 X0) (k9\_xtuple\_0 X1)) \Rightarrow (k9\_xtuple\_0 (k3\_relat\_1 X0 X1) = k9\_xtuple\_0 X0))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2. ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow ((X0 \in k9\_xtuple\_0 X1) \Rightarrow (k1\_funct\_1 (k3\_relat\_1 X1 X2) X0 = k1\_funct\_1 X2 (k1\_funct\_1 X1 X0)))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2. ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow ((X0 \in k9\_xtuple\_0 (k3\_relat\_1 X2 X1)) \Leftrightarrow ((X0 \in k9\_xtuple\_0 X2) \wedge (k1\_funct\_1 X2 X0 \in k9\_xtuple\_0 X1)))) \quad (4)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2. ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow (((\forall X3. (X3 \in k9\_xtuple\_0 X2) \Leftrightarrow ((X3 \in k9\_xtuple\_0 X0) \wedge (k1\_funct\_1 X0 X3 \in k9\_xtuple\_0 X1))) \wedge (\forall X3. (X3 \in k9\_xtuple\_0 X2) \Rightarrow (k1\_funct\_1 X2 X3 = k1\_funct\_1 X1 (k1\_funct\_1 X0 X3)))) \Rightarrow (X2 = k3\_relat\_1 X0 X1)))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\wedge((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1)))\Rightarrow((v1\_relat\_1 (k3\_relat\_1 X0 X1))\wedge(v1\_funct\_1 (k3\_relat\_1 X0 X1))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.v1\_relat\_1 (k3\_relat\_1 X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski X0 X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow (X2 \in X1)) \quad (8)$$

**Theorem 1**

$$\begin{aligned} &\forall X0.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow(\forall X1.((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1))\Rightarrow(\forall X2.((v1\_relat\_1 X2)\wedge(v1\_funct\_1 X2))\Rightarrow(\forall X3.((r1\_tarski X3 (k9\_xtuple\_0 X0))\wedge((r1\_tarski X3 (k9\_xtuple\_0 X1))\wedge((r1\_tarski (k10\_xtuple\_0 X2) X3)\wedge(\forall X4.(X4 \in X3)\Rightarrow(k1\_funct\_1 X0 X4 = k1\_funct\_1 X1 X4))))))\Rightarrow(k3\_relat\_1 X2 X0 = k3\_relat\_1 X2 X1)))) \end{aligned}$$