

t52\_funct\_4 (TMb-  
hcF9dXbnRACsokjEC6jcYQVuH6UPJS5E)

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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  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_funct\_4 : \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. \neg (r1\_tarski X0 (k2\_zfmisc\_1 X1 X2)) \wedge ((X3 \in X0) \wedge (\forall X4. \forall X5. \neg (X4 \in X1) \wedge ((X5 \in X2) \wedge (X3 = k4\_tarski X4 X5)))) \quad (1)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (r1\_tarski (k2\_funct\_4 (k2\_funct\_4 X0)) X0) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow ((k4\_tarski X0 X1 \in k9\_xtuple\_0 X2) \Leftrightarrow (k4\_tarski X1 X0 \in k9\_xtuple\_0 (k2\_funct\_4 X2))) \quad (3)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (((k9\_xtuple\_0 X0 = k9\_xtuple\_0 X1) \wedge (r1\_tarski X0 X1)) \Rightarrow (X0 = X1))) \quad (4)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow (\forall X1. (v1\_relat\_1 X1) \Rightarrow ((r1\_tarski X0 X1) \Rightarrow ((r1\_tarski (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X1)) \wedge (r1\_tarski (k10\_xtuple\_0 X0) (k10\_xtuple\_0 X1)))))) \quad (5)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v1\_relat\_1 (k2\_funct\_4 X0)) \wedge (v1\_funct\_1 (k2\_funct\_4 X0))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ X0\ X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow (X2 \in X1)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1)\Leftrightarrow((r1\_tarski\ X0\ X1)\wedge(r1\_tarski\ X1\ X0)) \quad (8)$$

**Theorem 1**

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1\ X2)\wedge(v1\_funct\_1\ X2))\Rightarrow((r1\_tarski\ (k9\_xtuple\_0\ X2)\ (k2\_zfmisc\_1\ X0\ X1))\Rightarrow(k2\_funct\_4\ (k2\_funct\_4\ X2) = X2))$$