

t25\_grfunc\_1  
(TMdaQzaMs3rcHxkc9kEAWtX2iUfsNxJBodj)

October 27, 2020

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  $v2\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k6\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v2\_funct\_1 X0) \Leftrightarrow \\ (\forall X1. \forall X2. \forall X3. ((k4\_tarski X1 X3 \in X0) \wedge (k4\_tarski \\ X2 X3 \in X0)) \Rightarrow (X1 = X2))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (v1\_relat\_1 X0) \Rightarrow (\forall X1. (r1\_tarski X0 X1) \Leftrightarrow (\forall X2. \\ \forall X3. (k4\_tarski X2 X3 \in X0) \Rightarrow (k4\_tarski X2 X3 \in X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (X1 = k10\_xtuple\_0 X0) \Leftrightarrow (\forall X2. (X2 \in \\ X1) \Leftrightarrow (\exists X3. k4\_tarski X3 X2 \in X0)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow (\forall X2. (v1\_relat\_1 \\ X2) \Rightarrow ((X2 = k6\_relat\_1 X0 X1) \Leftrightarrow (\forall X3. \forall X4. (k4\_tarski \\ X3 X4 \in X2) \Leftrightarrow ((X4 \in X0) \wedge (k4\_tarski X3 X4 \in X1))))) \end{aligned} \quad (4)$$

**Theorem 1**

$$\begin{aligned} \forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. (( \\ v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (((r1\_tarski X0 X1) \wedge (v2\_funct\_1 \\ X1)) \Rightarrow (k6\_relat\_1 (k10\_xtuple\_0 X0) X1 = X0))) \end{aligned}$$