

## t20\_grfunc\_1

(TMX9rDd8P2wWHxu7koFDg6VAzRwHPQCAWHh)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v2\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_funct\_1 : \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v2\_funct\_1 X0) \Rightarrow \\ ((k10\_xtuple\_0 X0 = k9\_xtuple\_0 (k2\_funct\_1 X0)) \wedge (k9\_xtuple\_0 \\ X0 = k10\_xtuple\_0 (k2\_funct\_1 X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v2\_funct\_1 X0) \Rightarrow \\ (\forall X1.((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((X1 = k2\_funct\_1 \\ X0) \Leftrightarrow ((k9\_xtuple\_0 X1 = k10\_xtuple\_0 X0) \wedge (\forall X2. \forall X3. \\ (((X2 \in k10\_xtuple\_0 X0) \wedge (X3 = k1\_funct\_1 X1 X2)) \Rightarrow ((X3 \in k9\_xtuple\_0 \\ X0) \wedge (X2 = k1\_funct\_1 X0 X3))) \wedge ((X3 \in k9\_xtuple\_0 X0) \wedge (X2 = k1\_funct\_1 \\ X0 X3)) \Rightarrow ((X2 \in k10\_xtuple\_0 X0) \wedge (X3 = k1\_funct\_1 X1 X2)))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 \\ X2)) \Rightarrow ((k4\_tarski X0 X1 \in X2) \Leftrightarrow ((X0 \in k9\_xtuple\_0 X2) \wedge (X1 = k1\_funct\_1 \\ X2 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v1\_relat\_1 ( \\ k2\_funct\_1 X0)) \wedge (v1\_funct\_1 (k2\_funct\_1 X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. k4\_tarski X0 X1 = k2\_tarski (k2\_tarski X0 \\ X1) (k1\_tarski X0) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.k2\_tarSKI X0 X1 = k2\_tarSKI X1 X0 \quad (6)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v2\_funct\_1 X0) \Rightarrow \\ (\forall X1.\forall X2.(k4\_tarSKI X2 X1 \in k2\_funct\_1 X0) \Leftrightarrow (k4\_tarSKI \\ X1 X2 \in X0))) \end{aligned}$$