

t7\_glib\_000  
(TMdbPQBVYRtim2qfYqiyBzWqb16oaLfxeJB)

October 27, 2020

Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k13\_glib\_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k7\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k16\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (k9\_xtuple\_0 (k2\_funcop\_1 X0 X1) = X0) \wedge (r1\_tarski (k10\_xtuple\_0 (k2\_funcop\_1 X0 X1)) (k1\_tarski X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. k7\_funcop\_1 X0 X1 = k2\_funcop\_1 X0 X1 \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow (k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 (k16\_funcop\_1 X0 X1)) \wedge (v1\_funct\_1 (k16\_funcop\_1 X0 X1)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finset\_1 X0)))) \wedge (v7\_ordinal1 X1)) \Rightarrow ((v1\_relat\_1 (k13\_glib\_000 X0 X1 X2)) \wedge ((v4\_relat\_1 (k13\_glib\_000 X0 X1 X2) k5\_numbers) \wedge ((v1\_funct\_1 (k13\_glib\_000 X0 X1 X2)) \wedge (v1\_finset\_1 (k13\_glib\_000 X0 X1 X2)))))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.k16\_funcop\_1 X0 X1 = k7\_funcop\_1 (k1\_tarski X0) X1 \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow(\forall X1.(( \\ & \quad v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1))\Rightarrow(\forall X2.((v1\_relat\_1 X2)\wedge \\ (v1\_funct\_1 X2))\Rightarrow((X2 = k1\_funct\_4 X0 X1)\Leftrightarrow((k9\_xtuple\_0 X2 = k2\_xboole\_0 \\ & \quad (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X1))\wedge(\forall X3.(X3 \in k2\_xboole\_0 \\ & \quad (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X1))\Rightarrow(((X3 \in k9\_xtuple\_0 X1)\Rightarrow(k1\_funct\_1 \\ & \quad X2 X3 = k1\_funct\_1 X1 X3))\wedge((\neg X3 \in k9\_xtuple\_0 X1)\Rightarrow(k1\_funct\_1 X2 \\ & \quad X3 = k1\_funct\_1 X0 X3)))))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0)\wedge((v4\_relat\_1 X0 k5\_numbers)\wedge((v1\_funct\_1 \\ & \quad X0)\wedge(v1\_finset\_1 X0))))\Rightarrow(\forall X1.(v7\_ordinal1 X1)\Rightarrow(\forall X2. \\ & \quad k13\_glib\_000 X0 X1 X2 = k1\_funct\_4 X0 (k16\_funcop\_1 X1 X2))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0 X0 X1 = k2\_xboole\_0 X1 X0 \quad (9)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0)\wedge((v4\_relat\_1 X0 k5\_numbers)\wedge((v1\_funct\_1 \\ & \quad X0)\wedge(v1\_finset\_1 X0))))\Rightarrow(\forall X1.\forall X2.(v7\_ordinal1 \\ & \quad X2)\Rightarrow(k1\_relset\_1 k5\_numbers (k13\_glib\_000 X0 X2 X1) = k2\_xboole\_0 \\ & \quad (k1\_relset\_1 k5\_numbers X0) (k1\_tarski X2))) \end{aligned}$$