

t4\_glib\_004  
(TMPLJJdjTYa3FE8sLXg216o2rcHAyVvF1Ti)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v2\_pre\_poly : \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k3\_uproots : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_uproots : \iota \Rightarrow \iota$  be given. Let  $k9\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k13\_pre\_poly : \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k18\_rvsum\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_finsop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k33\_binop\_2 : \iota$  be given. Assume the following.

$$\forall X0. k1\_uproots (k1\_tarski X0) = k9\_finseq\_1 X0 \quad (1)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (r1\_tarski (k13\_pre\_poly X0) (k9\_xtuple\_0 X0)) \quad (2)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_finset\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))) \Rightarrow (\forall X2. ((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 X2 X0) \wedge ((v1\_funct\_1 X2) \wedge ((v1\_partfun1 X2 X0) \wedge ((v3\_valued\_0 X2) \wedge (v2\_pre\_poly X2)))))) \Rightarrow \\ & \quad (\neg (r1\_tarski (k13\_pre\_poly X2) X1) \wedge (\forall X3. (m2\_finseq\_1 X3 k1\_numbers) \Rightarrow (\neg (X3 = k3\_relat\_1 (k1\_uproots X1) X2) \wedge (k3\_uproots X0 X2 = k18\_rvsum\_1 X3)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow \\ & (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (k2\_zfmisc\_1 X0 \\ & X0) X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X0) X0)))))) \Rightarrow (k1\_finsop\_1 X0 (k12\_finseq\_1 X0 X1) X2 = X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.k9\_finseq\_1 X0 = k5\_finseq\_1 X0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v3\_valued\_0 X0))) \Rightarrow (k1\_seq\_1 X0 X1 = k1\_funct\_1 X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow (k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge (m1\_subset\_1 X1 X0)) \Rightarrow (k12\_finseq\_1 X0 X1 = k5\_finseq\_1 X1) \quad (9)$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_numbers \quad (10)$$

Assume the following.

$$\forall X0.v1\_finset\_1 (k1\_tarski X0) \quad (11)$$

Assume the following.

$$\begin{aligned} & (v1\_funct\_1 k33\_binop\_2) \wedge ((v1\_funct\_2 k33\_binop\_2 (k2\_zfmisc\_1 \\ & k1\_numbers k1\_numbers) k1\_numbers) \wedge (m1\_subset\_1 k33\_binop\_2 \\ & (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers) \\ & k1\_numbers)))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v3\_valued\_0 X0))) \Rightarrow (m1\_subset\_1 (k1\_seq\_1 X0 X1) k1\_numbers) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow (m1\_subset\_1 (k1\_relset\_1 X0 X1) (k1\_zfmisc\_1 X0)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1\_tarski\ X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (X2 = X0)) \quad (15)$$

Assume the following.

$$\forall X0.(m2\_finseq\_1\ X0\ k1\_numbers) \Rightarrow (k18\_rsum\_1\ X0 = k1\_finsop\_1\ k1\_numbers\ X0\ k33\_binop\_2) \quad (16)$$

**Theorem 1**

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1\ X2) \wedge ((v4\_relat\_1\ X2\ X0) \wedge ((v1\_funct\_1\ X2) \wedge ((v1\_partfun1\ X2\ X0) \wedge ((v3\_valued\_0\ X2) \wedge (v2\_pre\_poly\ X2)))))) \Rightarrow ((k1\_relset\_1\ X0\ X2 = k1\_tarski\ X1) \Rightarrow (k3\_uproots\ X0\ X2 = k1\_seq\_1\ X2\ X1))$$