

## t31\_group\_7

(TMKqLGD5y3LtWx5sRQMhk5nvxMWTvDXBAMd)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_group\_1 : \iota \Rightarrow o$  be given. Let  $l3\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $k1\_group\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_group\_7 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k9\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_group\_7 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. 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  $v1\_group\_7 : \iota \Rightarrow o$  be given. Let  $v2\_group\_7 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 X1 X0) \wedge \\ & (v1\_funct\_1 X1) \wedge (v1\_partfun1 X1 X0))) \Rightarrow (\forall X2. ((v1\_relat\_1 \\ & X2) \wedge ((v4\_relat\_1 X2 X0) \wedge ((v1\_funct\_1 X2) \wedge ((v1\_partfun1 X2 X0) \wedge \\ & ((v1\_group\_7 X2) \wedge (v2\_group\_7 X2 X0)))))) \Rightarrow ((\forall X3. \neg (X3 \in \\ & X0) \wedge (\forall X4. ((\neg v2\_struct\_0 X4) \wedge ((v2\_group\_1 X4) \wedge (l3\_algstr\_0 \\ & X4))) \Rightarrow (\neg (X4 = k1\_funct\_1 X2 X3) \wedge (k1\_funct\_1 X1 X3 = k1\_group\_1 X4)))) \Rightarrow \\ & (X1 = k1\_group\_1 (k2\_group\_7 X0 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$(k2\_finseq\_1 np\_1 = k1\_tarski np\_1) \wedge (k2\_finseq\_1 np\_2 = k2\_tarski np\_1 np\_2) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. r1\_tarski X0 X0 \tag{3}$$

Assume the following.

$$\forall X0. k9\_finseq\_1 X0 = k5\_finseq\_1 X0 \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge(l3\_algstr\_0 X0))\wedge(m1\_subset\_1 X1 (u1\_struct\_0 X0)))\Rightarrow(k4\_group\_7 X0 X1 = k5\_finseq\_1 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v4\_relat\_1 X1 X0))\Rightarrow(k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge((v2\_group\_1 X0)\wedge(l3\_algstr\_0 X0)))\Rightarrow(v2\_group\_7 (k5\_finseq\_1 X0) (k1\_tarski np\_1)) \quad (7)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge(l3\_algstr\_0 X0))\Rightarrow((v1\_partfun1 (k5\_finseq\_1 X0) (k1\_tarski np\_1))\wedge(v1\_group\_7 (k5\_finseq\_1 X0))) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge(l3\_algstr\_0 X0))\Rightarrow(v4\_relat\_1 (k5\_finseq\_1 X0) (k1\_tarski np\_1)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.v1\_relat\_1 (k1\_tarski (k4\_tarski X0 X1)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.v1\_funct\_1 (k1\_tarski (k4\_tarski X0 X1)) \quad (11)$$

Assume the following.

$$\forall X0.(l3\_algstr\_0 X0)\Rightarrow(m1\_subset\_1 (k1\_group\_1 X0) (u1\_struct\_0 X0)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1))\Rightarrow((X1 = k9\_finseq\_1 X0)\Leftrightarrow((k9\_xtuple\_0 X1 = k2\_finseq\_1 np\_1)\wedge(k1\_funct\_1 X1 np\_1 = X0))) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.k4\_tarski X0 X1 = k2\_tarski (k2\_tarski X0 X1) (k1\_tarski X0) \quad (14)$$

Assume the following.

$$\forall X0.k5\_finseq\_1 X0 = k1\_tarski (k4\_tarski np\_1 X0) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v4\_relat\_1 X1 X0))\Rightarrow( (v1\_partfun1 X1 X0)\Leftrightarrow(k1\_relset\_1 X0 X1 = X0)) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1\_tarski X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow (X2 = X0)) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1 X1)\Rightarrow((v4\_relat\_1 X1 X0)\Leftrightarrow(r1\_tarski (k9\_xtuple\_0 X1) X0)) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.k2\_tarski X0 X1 = k2\_tarski X1 X0 \quad (19)$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge((v2\_group\_1 X0)\wedge(l3\_algstr\_0 X0)))\Rightarrow(k1\_group\_1 (k2\_group\_7 (k1\_tarski np\_1) (k9\_finseq\_1 X0)) = k4\_group\_7 X0 (k1\_group\_1 X0))$$