t31_ftacell1 (TMb-SrZ9yvxSodACUxXZM7832yhuoTXNuWsD)

October 27, 2020

Let $k3\_msafree2 : \iota \Rightarrow \iota$ be given. Let $k19\_ftacell1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14\_twoscomp : \iota$ be given. Let $k48\_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_twoscomp : \iota$ be given. Let $k45\_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_tarski : \iota \Rightarrow \iota$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v1\_circcomb : \iota \Rightarrow o$ be given. Let $v2\_circcomb : \iota \Rightarrow o$ be given. Let $l1\_msualg\_1 : \iota \Rightarrow o$ be given. Let $r1\_circcomb : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k49\_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_msafree2 : \iota \Rightarrow \iota$ be given. Let $v11\_struct\_0 : \iota \Rightarrow o$ be given. Let $v1\_msualg\_1 : \iota \Rightarrow o$ be given. Let $v3\_circcomb : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.k2\_enumset1\ X0\ X1\ X2\ X3 = k2\_xboole\_0\ (k1\_enumset1\ X0\ X1\ X2)\ (k1\_tarski\ X3) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k2\_xboole\_0\ (k2\_xboole\_0\ X0\ X1)\ X2 = k2\_xboole\_0\ X0\ (k2\_xboole\_0\ X1\ X2) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v1\_circcomb\ X0) \wedge ((v2\_circcomb\ X0) \wedge (l1\_msualg\_1\ X0)))) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((v1\_circcomb\ X1) \wedge ((v2\_circcomb\ X1) \wedge (l1\_msualg\_1\ X1)))) \Rightarrow (r1\_circcomb\ X0\ X1)) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.k2\_tarski\ X0\ X1 = k2\_xboole\_0\ (k1\_tarski\ X0)\ (k1\_tarski\ X1) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k3\_msafree2\ (k49\_gfacirc1\ X0\ X1\ X2) = k2\_xboole\_0\ (k2\_xboole\_0\ (k2\_xboole\_0\ (k1\_tarski\ (k4\_tarski\ (k10\_finseq\_1\ X0\ X1)\ k14\_twoscomp))\ (k1\_tarski\ (k48\_gfacirc1\ X0\ X1\ X2)))\ (k1\_enumset1\ (k4\_tarski\ (k10\_finseq\_1\ X0\ X1)\ k4\_twoscomp)\ (k4\_tarski\ (k10\_finseq\_1\ X1\ X2)\ k4\_twoscomp)\ (k4\_tarski\ (k10\_finseq\_1\ X2\ X0)\ k4\_twoscomp)))\ (k1\_tarski\ (k45\_gfacirc1\ X0\ X1\ X2)) \tag{5}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge(l1\_msualg\_1\ X1))\Rightarrow((r1\_circcomb\ X0\ X1)\Rightarrow((k3\_msafree2\ (k2\_circcomb\ X0\ X1) = k2\_xboole\_0\ (k3\_msafree2\ X0)\ (k3\_msafree2\ X1))\wedge(r1\_tarski\ (k2\_msafree2\ (k2\_circcomb\ X0\ X1))\ (k2\_xboole\_0\ (k2\_msafree2\ X0)\ (k2\_msafree2\ X1)))))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(\neg v2\_struct\_0\ (k49\_gfacirc1\ X0\ X1\ X2))\wedge((\neg v11\_struct\_0\ (k49\_gfacirc1\ X0\ X1\ X2))\wedge((v1\_msualg\_1\ (k49\_gfacirc1\ X0\ X1\ X2))\wedge((v1\_circcomb\ (k49\_gfacirc1\ X0\ X1\ X2))\wedge((v2\_circcomb\ (k49\_gfacirc1\ X0\ X1\ X2))\wedge((v3\_circcomb\ (k49\_gfacirc1\ X0\ X1\ X2))\wedge(l1\_msualg\_1\ (k49\_gfacirc1\ X0\ X1\ X2))))))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.k19\_ftacell1\ X0\ X1\ X2\ X3\ X4 = k2\_circcomb\ (k49\_gfacirc1\ X0\ X1\ X2)\ (k49\_gfacirc1\ (k48\_gfacirc1\ X0\ X1\ X2)\ X4\ X3) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0\ X0\ X1 = k2\_xboole\_0\ X1\ X0 \tag{9}$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.k3\_msafree2\ (k19\_ftacell1\ X0\ X1\ X2\ X3\ X4) = k2\_xboole\_0\ (k2\_xboole\_0\ (k2\_xboole\_0\ (k2\_tarski\ (k4\_tarski\ (k10\_finseq\_1\ X0\ X1)\ k14\_twoscomp)\ (k48\_gfacirc1\ X0\ X1\ X2))\ (k2\_enumset1\ (k4\_tarski\ (k10\_finseq\_1\ X0\ X1)\ k4\_twoscomp)\ (k4\_tarski\ (k10\_finseq\_1\ X1\ X2)\ k4\_twoscomp)\ (k4\_tarski\ (k10\_finseq\_1\ X2\ X0)\ k4\_twoscomp)\ (k45\_gfacirc1\ X0\ X1\ X2)))\ (k2\_tarski\ (k4\_tarski\ (k10\_finseq\_1\ (k48\_gfacirc1\ X0\ X1\ X2)\ X4)\ k14\_twoscomp)\ (k48\_gfacirc1\ (k48\_gfacirc1\ X0\ X1\ X2)\ X4\ X3)))\ (k2\_enumset1\ (k4\_tarski\ (k10\_finseq\_1\ (k48\_gfacirc1\ X0\ X1\ X2)\ X4)\ k4\_twoscomp)\ (k4\_tarski\ (k10\_finseq\_1\ X4\ X3)\ k4\_twoscomp)\ (k4\_tarski\ (k10\_finseq\_1\ X3\ (k48\_gfacirc1\ X0\ X1\ X2))\ k4\_twoscomp)\ (k45\_gfacirc1\ (k48\_gfacirc1\ X0\ X1\ X2)\ X4\ X3))$$