t109_gfacirc1 (TMSGeukXJbbNmVRXDMbb-TiZ3EnBcsJhsrPA)

October 27, 2020

Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_twoscomp : \iota$ be given. Let $k2\_msafree2 : \iota \Rightarrow \iota$ be given. Let $k43\_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_msualg\_1 : \iota \Rightarrow o$ be given. Let $r1\_circcomb : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_msafree2 : \iota \Rightarrow \iota$ be given. Let $v1\_circcomb : \iota \Rightarrow o$ be given. Let $v2\_circcomb : \iota \Rightarrow o$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_finseq\_1 : \iota \Rightarrow o$ be given. Let $k5\_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_tarski : \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k11\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k41\_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_2 : \iota$ be given. Let $k6\_margrel1 : \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_3 : \iota$ 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. Let $k29\_twoscomp : \iota$ be given. Let $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0)) \Rightarrow (\forall X1.\ ((\neg v2\_struct\_0\ X1) \wedge (l1\_msualg\_1\ X1)) \Rightarrow ((r1\_circcomb\ X0\ X1) \Rightarrow (k2\_msafree2\ (k2\_circcomb\ X0\ X1) = k2\_xboole\_0\ (k4\_xboole\_0\ (k2\_msafree2\ X0)\ (k3\_msafree2\ X1))\ (k4\_xboole\_0\ (k2\_msafree2\ X1)\ (k3\_msafree2\ X0))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v1\_circcomb\ X0) \wedge ((v2\_circcomb\ X0) \wedge (l1\_msualg\_1\ X0)))) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((v1\_circcomb\ X1) \wedge ((v2\_circcomb\ X1) \wedge (l1\_msualg\_1\ X1)))) \Rightarrow (r1\_circcomb\ X0\ X1)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_finseq\_1\ X1)))\Rightarrow((k2\_msafree2\ (k5\_circcomb\ X0\ X1) = k10\_xtuple\_0\ X1)\wedge(k3\_msafree2\ (k5\_circcomb\ X0\ X1) = k1\_tarski\ (k4\_tarski\ X1\ X0))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(k4\_xboole\_0\ X0\ X1 = k1\_xboole\_0)\Leftrightarrow(r1\_tarski\ X0\ X1) \tag{4}$$

Assume the following.

$$\forall X0.k2\_xboole\_0\ X0\ k1\_xboole\_0 = X0 \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k10\_xtuple\_0\ (k11\_finseq\_1\ X0\ X1\ X2) = k1\_enumset1\ X0\ X1\ X2 \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0{\neq}k4\_tarski\ (k10\_finseq\_1\ X1\ X2)\ k4\_twoscomp)\wedge((X1{\neq}k4\_tarski\ (k10\_finseq\_1\ X2\ X0)\ k4\_twoscomp)\wedge((X2{\neq}k4\_tarski\ (k10\_finseq\_1\ X0\ X1)\ k4\_twoscomp)\wedge(k2\_msafree2\ (k41\_gfacirc1\ X0\ X1\ X2){\neq}k1\_enumset1\ X0\ X1\ X2))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k3\_msafree2\ (k41\_gfacirc1\ X0\ X1\ X2) = k1\_enumset1\ (k4\_tarski\ (k10\_finseq\_1\ X0\ X1)\ k4\_twoscomp)\ (k4\_tarski\ (k10\_finseq\_1\ X1\ X2)\ k4\_twoscomp)\ (k4\_tarski\ (k10\_finseq\_1\ X2\ X0)\ k4\_twoscomp) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.r1\_tarski\ X0\ X0 \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.k6\_subset\_1\ X0\ X1 = k4\_xboole\_0\ X0\ X1 \tag{10}$$

Assume the following.

$$\forall X0.((v1\_funct\_1\ X0)\wedge((v1\_funct\_2\ X0\ (k4\_finseq\_2\ np\_\_2\ k6\_margrel1)\ k6\_margrel1)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k4\_finseq\_2\ np\_\_2\ k6\_margrel1)\ k6\_margrel1)))))\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ (k4\_finseq\_2\ np\_\_2\ k6\_margrel1)\ k6\_margrel1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k4\_finseq\_2\ np\_\_2\ k6\_margrel1)\ k6\_margrel1)))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k4\_finseq\_2\ np\_\_2\ k6\_margrel1)\ k6\_margrel1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k4\_finseq\_2\ np\_\_2\ k6\_margrel1)\ k6\_margrel1)))))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k4\_finseq\_2\ np\_\_3\ k6\_margrel1)\ k6\_margrel1)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k4\_finseq\_2\ np\_\_3\ k6\_margrel1)\ k6\_margrel1)))))\Rightarrow(\forall X4.\forall X5.\forall X6.k6\_subset\_1\ (k1\_enumset1\ X4\ X5\ X6)\ (k1\_tarski\ (k4\_tarski\ (k11\_finseq\_1\ (k4\_tarski\ (k10\_finseq\_1\ X4\ X5)\ X0)\ (k4\_tarski\ (k10\_finseq\_1\ X5\ X6)\ X1)\ (k4\_tarski\ (k10\_finseq\_1\ X6\ X4)\ X2))\ X3))=k1\_enumset1\ X4\ X5\ X6)))) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(v1\_relat\_1\ (k11\_finseq\_1\ X0\ X1\ X2))\wedge(v1\_funct\_1\ (k11\_finseq\_1\ X0\ X1\ X2)) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_finseq\_1\ X1)))\Rightarrow((\neg v2\_struct\_0\ (k5\_circcomb\ X0\ X1))\wedge((\neg v11\_struct\_0\ (k5\_circcomb\ X0\ X1))\wedge(v1\_msualg\_1\ (k5\_circcomb\ X0\ X1)))) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.v1\_finseq\_1\ (k11\_finseq\_1\ X0\ X1\ X2) \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_finseq\_1\ X1)))\Rightarrow((\neg v11\_struct\_0\ (k5\_circcomb\ X0\ X1))\wedge((v1\_msualg\_1\ (k5\_circcomb\ X0\ X1))\wedge((v1\_circcomb\ (k5\_circcomb\ X0\ X1))\wedge(v2\_circcomb\ (k5\_circcomb\ X0\ X1))))) \tag{15}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_finseq\_1\ X1)))\Rightarrow((\neg v11\_struct\_0\ (k5\_circcomb\ X0\ X1))\wedge((v1\_msualg\_1\ (k5\_circcomb\ X0\ X1))\wedge(l1\_msualg\_1\ (k5\_circcomb\ X0\ X1)))) \tag{16}$$

Assume the following.

$$(v1\_funct\_1\ k4\_twoscomp)\wedge((v1\_funct\_2\ k4\_twoscomp\ (k4\_finseq\_2\ np\_\_2\ k6\_margrel1)\ k6\_margrel1)\wedge(m1\_subset\_1\ k4\_twoscomp\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k4\_finseq\_2\ np\_\_2\ k6\_margrel1)\ k6\_margrel1))))\tag{17}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(\neg v2\_struct\_0\ (k41\_gfacirc1\ X0\ X1\ X2))\wedge((\neg v11\_struct\_0\ (k41\_gfacirc1\ X0\ X1\ X2))\wedge((v1\_msualg\_1\ (k41\_gfacirc1\ X0\ X1\ X2))\wedge((v1\_circcomb\ (k41\_gfacirc1\ X0\ X1\ X2))\wedge((v2\_circcomb\ (k41\_gfacirc1\ X0\ X1\ X2))\wedge((v3\_circcomb\ (k41\_gfacirc1\ X0\ X1\ X2))\wedge(l1\_msualg\_1\ (k41\_gfacirc1\ X0\ X1\ X2)))))))\tag{18}$$

Assume the following.

$$(v1\_funct\_1\ k29\_twoscomp)\wedge((v1\_funct\_2\ k29\_twoscomp\ (k4\_finseq\_2\ np\_\_3\ k6\_margrel1)\ k6\_margrel1)\wedge(m1\_subset\_1\ k29\_twoscomp\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k4\_finseq\_2\ np\_\_3\ k6\_margrel1)\ k6\_margrel1))))\tag{19}$$

Assume the following.

$$\forall X0.\forall X1.k4\_tarski\ X0\ X1 = k2\_tarski\ (k2\_tarski\ X0\ X1)\ (k1\_tarski\ X0)\tag{20}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k43\_gfacirc1\ X0\ X1\ X2 = k2\_circcomb\ (k41\_gfacirc1\ X0\ X1\ X2)\ (k5\_circcomb\ k29\_twoscomp\ (k11\_finseq\_1\ (k4\_tarski\ (k10\_finseq\_1\ X0\ X1)\ k4\_twoscomp)\ (k4\_tarski\ (k10\_finseq\_1\ X1\ X2)\ k4\_twoscomp)\ (k4\_tarski\ (k10\_finseq\_1\ X2\ X0)\ k4\_twoscomp)))\tag{21}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k41\_gfacirc1\ X0\ X1\ X2 = k2\_circcomb\ (k2\_circcomb\ (k5\_circcomb\ k4\_twoscomp\ (k10\_finseq\_1\ X0\ X1))\ (k5\_circcomb\ k4\_twoscomp\ (k10\_finseq\_1\ X1\ X2)))\ (k5\_circcomb\ k4\_twoscomp\ (k10\_finseq\_1\ X2\ X0))\tag{22}$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.\neg(X0{\neq}k4\_tarski\ (k10\_finseq\_1\ X1\ X2)\ k4\_twoscomp)\wedge((X1{\neq}k4\_tarski\ (k10\_finseq\_1\ X2\ X0)\ k4\_twoscomp)\wedge((X2{\neq}k4\_tarski\ (k10\_finseq\_1\ X0\ X1)\ k4\_twoscomp)\wedge(k2\_msafree2\ (k43\_gfacirc1\ X0\ X1\ X2){\neq}k1\_enumset1\ X0\ X1\ X2)))$$