

t15_ftacell1 (TMZyhSnhmBjCpRNFjABKJxY-
BqAgTGt2VMZV)

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 $k4_gfacirc1 : \iota$ be given. Let $k3_msafree2 : \iota \Rightarrow \iota$ be given. Let $k7_ftacell1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k24_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_gfacirc1 : \iota$ be given. Let $k3_twoscomp : \iota$ be given. Let $k2_twoscomp : \iota$ be given. Let $k21_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k36_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_twoscomp : \iota$ be given. Let $k33_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_facirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.k2_xboole_0 (k2_xboole_0 X0 X1) X2 = k2_xboole_0 X0 (k2_xboole_0 X1 X2) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5.k4_enumset1 X0 X1 X2 X3 X4 X5 = k2_xboole_0 (k2_tarski X0 X1) (k2_enumset1 X2 X3 X4 X5) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.k3_msafree2 \\ & (k7_ftacell1 X0 X1 X2 X3 X4) = k2_xboole_0 (k2_xboole_0 (k2_xboole_0 \\ & (k2_tarski (k4_tarski (k10_finseq_1 X0 X1) k4_gfacirc1) (k24_gfacirc1 \\ & X0 X1 X2)) (k2_enumset1 (k4_tarski (k10_finseq_1 X0 X1) k3_gfacirc1) \\ & (k4_tarski (k10_finseq_1 X1 X2) k3_twoscomp) (k4_tarski (k10_finseq_1 \\ & X2 X0) k2_twoscomp) (k21_gfacirc1 X0 X1 X2))) (k2_tarski (k4_tarski \\ & (k10_finseq_1 (k24_gfacirc1 X0 X1 X2) X4) k4_gfacirc1) (k36_gfacirc1 \\ & (k24_gfacirc1 X0 X1 X2) X4 X3))) (k2_enumset1 (k4_tarski (k10_finseq_1 \\ & (k24_gfacirc1 X0 X1 X2) X4) k3_twoscomp) (k4_tarski (k10_finseq_1 \\ & X4 X3) k3_gfacirc1) (k4_tarski (k10_finseq_1 X3 (k24_gfacirc1 \\ & X0 X1 X2)) k4_twoscomp) (k33_gfacirc1 (k24_gfacirc1 X0 X1 X2) X4 \\ & X3)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & \forall X6.(X6 = k4_enumset1\ X0\ X1\ X2\ X3\ X4\ X5) \Leftrightarrow (\forall X7.(X7 \in X6) \Leftrightarrow \\ & (\neg(X7 \neq X0) \wedge ((X7 \neq X1) \wedge ((X7 \neq X2) \wedge ((X7 \neq X3) \wedge ((X7 \neq X4) \wedge (X7 \neq X5))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(X2 = k2_xboole_0\ X0\ X1) \Leftrightarrow (\forall X3. \\ & (X3 \in X2) \Leftrightarrow ((X3 \in X0) \vee (X3 \in X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.k36_gfacirc1\ X0\ X1\ X2 = k9_facirc1 \\ & X0\ X1\ X2\ k4_gfacirc1 \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.k24_gfacirc1\ X0\ X1\ X2 = k9_facirc1 \\ & X0\ X1\ X2\ k4_gfacirc1 \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.k2_xboole_0\ X0\ X1 = k2_xboole_0\ X1\ X0 \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(k4_tarski \\ & (k10_finseq_1\ X0\ X1)\ k4_gfacirc1 \in k3_msafree2\ (k7_ftacell1\ X0 \\ & X1\ X2\ X3\ X4)) \wedge ((k24_gfacirc1\ X0\ X1\ X2 \in k3_msafree2\ (k7_ftacell1 \\ & X0\ X1\ X2\ X3\ X4)) \wedge ((k4_tarski\ (k10_finseq_1\ X0\ X1)\ k3_gfacirc1 \in k3_msafree2 \\ & (k7_ftacell1\ X0\ X1\ X2\ X3\ X4)) \wedge ((k4_tarski\ (k10_finseq_1\ X1\ X2)\ k3_twoscomp \in \\ & k3_msafree2\ (k7_ftacell1\ X0\ X1\ X2\ X3\ X4)) \wedge ((k4_tarski\ (k10_finseq_1 \\ & X2\ X0)\ k2_twoscomp \in k3_msafree2\ (k7_ftacell1\ X0\ X1\ X2\ X3\ X4)) \wedge ((\\ & k21_gfacirc1\ X0\ X1\ X2 \in k3_msafree2\ (k7_ftacell1\ X0\ X1\ X2\ X3\ X4)) \wedge \\ & ((k4_tarski\ (k10_finseq_1\ (k24_gfacirc1\ X0\ X1\ X2)\ X4)\ k4_gfacirc1 \in \\ & k3_msafree2\ (k7_ftacell1\ X0\ X1\ X2\ X3\ X4)) \wedge ((k36_gfacirc1\ (k24_gfacirc1 \\ & X0\ X1\ X2)\ X4\ X3 \in k3_msafree2\ (k7_ftacell1\ X0\ X1\ X2\ X3\ X4)) \wedge ((k4_tarski \\ & (k10_finseq_1\ (k24_gfacirc1\ X0\ X1\ X2)\ X4)\ k3_twoscomp \in k3_msafree2 \\ & (k7_ftacell1\ X0\ X1\ X2\ X3\ X4)) \wedge ((k4_tarski\ (k10_finseq_1\ X4\ X3)\ k3_gfacirc1 \in \\ & k3_msafree2\ (k7_ftacell1\ X0\ X1\ X2\ X3\ X4)) \wedge ((k4_tarski\ (k10_finseq_1 \\ & X3\ (k24_gfacirc1\ X0\ X1\ X2))\ k4_twoscomp \in k3_msafree2\ (k7_ftacell1 \\ & X0\ X1\ X2\ X3\ X4)) \wedge (k33_gfacirc1\ (k24_gfacirc1\ X0\ X1\ X2)\ X4\ X3 \in k3_msafree2 \\ & (k7_ftacell1\ X0\ X1\ X2\ X3\ X4)))))))))) \end{aligned}$$