

t132_gfacirc1
(TMZwmgFQHor65LDsupvYkju5stQBQJNb1tA)

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Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k49_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k4_twoscomp : \iota$ be given. Let $k11_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k29_twoscomp : \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k46_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k43_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $v1_msualg_1 : \iota \Rightarrow o$ be given. Let $v1_circcomb : \iota \Rightarrow o$ be given. Let $v2_circcomb : \iota \Rightarrow o$ be given. Let $v3_circcomb : \iota \Rightarrow o$ be given. Let $k8_facirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge (l1_msualg_1 X1)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow ((X2 \in u1_struct_0 (k2_circcomb X0 X1)) \wedge (\\ & X2 \in u1_struct_0 (k2_circcomb X1 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (X0 \in u1_struct_0 (k46_gfacirc1 \\ & X0 X1 X2)) \wedge ((X1 \in u1_struct_0 (k46_gfacirc1 X0 X1 X2)) \wedge ((X2 \in u1_struct_0 \\ & (k46_gfacirc1 X0 X1 X2)) \wedge ((k4_tarski (k10_finseq_1 X0 X1) k14_twoscomp \in \\ & u1_struct_0 (k46_gfacirc1 X0 X1 X2)) \wedge (k4_tarski (k10_finseq_1 \\ & (k4_tarski (k10_finseq_1 X0 X1) k14_twoscomp) X2) k14_twoscomp \in \\ & u1_struct_0 (k46_gfacirc1 X0 X1 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(X0 \in u1_struct_0 (k43_gfacirc1 \\
& X0 X1 X2)) \wedge ((X1 \in u1_struct_0 (k43_gfacirc1 X0 X1 X2)) \wedge ((X2 \in u1_struct_0 \\
& (k43_gfacirc1 X0 X1 X2)) \wedge ((k4_tarski (k10_finseq_1 X0 X1) k4_twoscomp \in \\
& u1_struct_0 (k43_gfacirc1 X0 X1 X2)) \wedge ((k4_tarski (k10_finseq_1 \\
& X1 X2) k4_twoscomp \in u1_struct_0 (k43_gfacirc1 X0 X1 X2)) \wedge ((k4_tarski \\
& (k10_finseq_1 X2 X0) k4_twoscomp \in u1_struct_0 (k43_gfacirc1 X0 \\
& X1 X2)) \wedge (k4_tarski (k11_finseq_1 (k4_tarski (k10_finseq_1 X0 \\
& X1) k4_twoscomp) (k4_tarski (k10_finseq_1 X1 X2) k4_twoscomp) \\
& (k4_tarski (k10_finseq_1 X2 X0) k4_twoscomp))) k29_twoscomp \in u1_struct_0 \\
& (k43_gfacirc1 X0 X1 X2))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(\neg v2_struct_0 (k46_gfacirc1 \\
& X0 X1 X2)) \wedge ((\neg v11_struct_0 (k46_gfacirc1 X0 X1 X2)) \wedge ((v1_msualg_1 \\
& (k46_gfacirc1 X0 X1 X2)) \wedge ((v1_circcomb (k46_gfacirc1 X0 X1 X2)) \wedge \\
& ((v2_circcomb (k46_gfacirc1 X0 X1 X2)) \wedge ((v3_circcomb (k46_gfacirc1 \\
& X0 X1 X2)) \wedge (l1_msualg_1 (k46_gfacirc1 X0 X1 X2))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(\neg v2_struct_0 (k43_gfacirc1 \\
& X0 X1 X2)) \wedge ((\neg v11_struct_0 (k43_gfacirc1 X0 X1 X2)) \wedge ((v1_msualg_1 \\
& (k43_gfacirc1 X0 X1 X2)) \wedge ((v1_circcomb (k43_gfacirc1 X0 X1 X2)) \wedge \\
& ((v2_circcomb (k43_gfacirc1 X0 X1 X2)) \wedge ((v3_circcomb (k43_gfacirc1 \\
& X0 X1 X2)) \wedge (l1_msualg_1 (k43_gfacirc1 X0 X1 X2))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k49_gfacirc1 X0 X1 X2 = k2_circcomb (k46_gfacirc1 X0 X1 X2) (k43_gfacirc1 X0 X1 X2) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k46_gfacirc1 X0 X1 X2 = k8_facirc_1 X0 X1 X2 k14_twoscomp \tag{8}$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(X0 \in u1_struct_0 (k49_gfacirc1 \\ & X0 X1 X2)) \wedge ((X1 \in u1_struct_0 (k49_gfacirc1 X0 X1 X2)) \wedge ((X2 \in u1_struct_0 \\ & (k49_gfacirc1 X0 X1 X2)) \wedge ((k4_tarski (k10_finseq_1 X0 X1) k14_twoscomp \in \\ & u1_struct_0 (k49_gfacirc1 X0 X1 X2)) \wedge ((k4_tarski (k10_finseq_1 \\ & (k4_tarski (k10_finseq_1 X0 X1) k14_twoscomp) X2) k14_twoscomp \in \\ & u1_struct_0 (k49_gfacirc1 X0 X1 X2)) \wedge ((k4_tarski (k10_finseq_1 \\ & X0 X1) k4_twoscomp \in u1_struct_0 (k49_gfacirc1 X0 X1 X2)) \wedge ((k4_tarski \\ & (k10_finseq_1 X1 X2) k4_twoscomp \in u1_struct_0 (k49_gfacirc1 X0 \\ & X1 X2)) \wedge ((k4_tarski (k10_finseq_1 X2 X0) k4_twoscomp \in u1_struct_0 \\ & (k49_gfacirc1 X0 X1 X2)) \wedge (k4_tarski (k11_finseq_1 (k4_tarski \\ & (k10_finseq_1 X0 X1) k4_twoscomp) (k4_tarski (k10_finseq_1 X1 \\ & X2) k4_twoscomp) (k4_tarski (k10_finseq_1 X2 X0) k4_twoscomp)) \\ & k29_twoscomp \in u1_struct_0 (k49_gfacirc1 X0 X1 X2)))))))))) \end{aligned}$$