

t68_gfacirc1
(TMV4U4ahbtFgAgTwjepqkG3R9Tctn4jPNA7)

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Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k25_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_gfacirc1 : \iota$ be given. Let $k3_gfacirc1 : \iota$ be given. Let $k3_twoscomp : \iota$ be given. Let $k2_twoscomp : \iota$ be given. Let $k11_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k25_twoscomp : \iota$ be given. Let $k22_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (X0 \in u1_struct_0 (k22_gfacirc1 \\ & X0 X1 X2)) \wedge ((X1 \in u1_struct_0 (k22_gfacirc1 X0 X1 X2)) \wedge ((X2 \in u1_struct_0 \\ & (k22_gfacirc1 X0 X1 X2)) \wedge ((k4_tarski (k10_finseq_1 X0 X1) k4_gfacirc1 \in \\ & u1_struct_0 (k22_gfacirc1 X0 X1 X2)) \wedge (k4_tarski (k10_finseq_1 \\ & (k4_tarski (k10_finseq_1 X0 X1) k4_gfacirc1) X2) k4_gfacirc1 \in \\ & u1_struct_0 (k22_gfacirc1 X0 X1 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (X0 \in u1_struct_0 (k19_gfacirc1 \\ & X0 X1 X2)) \wedge ((X1 \in u1_struct_0 (k19_gfacirc1 X0 X1 X2)) \wedge ((X2 \in u1_struct_0 \\ & (k19_gfacirc1 X0 X1 X2)) \wedge ((k4_tarski (k10_finseq_1 X0 X1) k3_gfacirc1 \in \\ & u1_struct_0 (k19_gfacirc1 X0 X1 X2)) \wedge ((k4_tarski (k10_finseq_1 \\ & X1 X2) k3_twoscomp \in u1_struct_0 (k19_gfacirc1 X0 X1 X2)) \wedge ((k4_tarski \\ & (k10_finseq_1 X2 X0) k2_twoscomp \in u1_struct_0 (k19_gfacirc1 X0 \\ & X1 X2)) \wedge (k4_tarski (k11_finseq_1 (k4_tarski (k10_finseq_1 X0 \\ & X1) k3_gfacirc1) (k4_tarski (k10_finseq_1 X1 X2) k3_twoscomp) \\ & (k4_tarski (k10_finseq_1 X2 X0) k2_twoscomp)) k25_twoscomp \in u1_struct_0 \\ & (k19_gfacirc1 X0 X1 X2)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge (l1_msualg_1 X1)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow ((X2 \in u1_struct_0 (k2_circcomb X0 X1)) \wedge (\\ & X2 \in u1_struct_0 (k2_circcomb X1 X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(\neg v2_struct_0 (k22_gfacirc1 \\ & X0 X1 X2)) \wedge ((\neg v11_struct_0 (k22_gfacirc1 X0 X1 X2)) \wedge ((v1_msualg_1 \\ & (k22_gfacirc1 X0 X1 X2)) \wedge ((v1_circcomb (k22_gfacirc1 X0 X1 X2)) \wedge \\ & ((v2_circcomb (k22_gfacirc1 X0 X1 X2)) \wedge ((v3_circcomb (k22_gfacirc1 \\ & X0 X1 X2)) \wedge (l1_msualg_1 (k22_gfacirc1 X0 X1 X2))))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(\neg v2_struct_0 (k19_gfacirc1 \\ & X0 X1 X2)) \wedge ((\neg v11_struct_0 (k19_gfacirc1 X0 X1 X2)) \wedge ((v1_msualg_1 \\ & (k19_gfacirc1 X0 X1 X2)) \wedge ((v1_circcomb (k19_gfacirc1 X0 X1 X2)) \wedge \\ & ((v2_circcomb (k19_gfacirc1 X0 X1 X2)) \wedge ((v3_circcomb (k19_gfacirc1 \\ & X0 X1 X2)) \wedge (l1_msualg_1 (k19_gfacirc1 X0 X1 X2))))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k25_gfacirc1 X0 X1 X2 = k2_circcomb (k22_gfacirc1 X0 X1 X2) (k19_gfacirc1 X0 X1 X2) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k22_gfacirc1 X0 X1 X2 = k8_facirc1 X0 X1 X2 k4_gfacirc1 \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(X0 \in u1_struct_0 (k25_gfacirc1 \\ & X0 X1 X2)) \wedge ((X1 \in u1_struct_0 (k25_gfacirc1 X0 X1 X2)) \wedge ((X2 \in u1_struct_0 \\ & (k25_gfacirc1 X0 X1 X2)) \wedge ((k4_tarski (k10_finseq_1 X0 X1) k4_gfacirc1 \in \\ & u1_struct_0 (k25_gfacirc1 X0 X1 X2)) \wedge ((k4_tarski (k10_finseq_1 \\ & (k4_tarski (k10_finseq_1 X0 X1) k4_gfacirc1) X2) k4_gfacirc1 \in \\ & u1_struct_0 (k25_gfacirc1 X0 X1 X2)) \wedge ((k4_tarski (k10_finseq_1 \\ & X0 X1) k3_gfacirc1 \in u1_struct_0 (k25_gfacirc1 X0 X1 X2)) \wedge ((k4_tarski \\ & (k10_finseq_1 X1 X2) k3_twoscomp \in u1_struct_0 (k25_gfacirc1 X0 \\ & X1 X2)) \wedge ((k4_tarski (k10_finseq_1 X2 X0) k2_twoscomp \in u1_struct_0 \\ & (k25_gfacirc1 X0 X1 X2)) \wedge (k4_tarski (k11_finseq_1 (k4_tarski \\ & (k10_finseq_1 X0 X1) k3_gfacirc1) (k4_tarski (k10_finseq_1 X1 \\ & X2) k3_twoscomp) (k4_tarski (k10_finseq_1 X2 X0) k2_twoscomp)) \\ & k25_twoscomp \in u1_struct_0 (k25_gfacirc1 X0 X1 X2))))))))) \end{aligned}$$