

t127_gfacirc1 (TMUg- pyid1YvG1KxZZyXvUVgW1xH268asm6P)

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Let $k3_msafree2 : \iota \Rightarrow \iota$ be given. Let $k49_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ 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 $k1_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_twoscomp : \iota$ be given. Let $k45_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ 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 $k2_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v3_circcomb : \iota \Rightarrow o$ be given. Let $k41_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k29_twoscomp : \iota$ be given. Let $k11_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge ((v1_circcomb X0) \wedge ((v2_circcomb \\ X0) \wedge (l1_msualg_1 X0)))) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge ((v1_circcomb \\ X1) \wedge ((v2_circcomb X1) \wedge (l1_msualg_1 X1)))) \Rightarrow (k3_msafree2 (k2_circcomb \\ X0 X1) = k2_xboole_0 (k3_msafree2 X0) (k3_msafree2 X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k3_msafree2 (k46_gfacirc1 X0 X1 X2) = k2_xboole_0 (k1_tarski (k4_tarski (k10_finseq_1 X0 X1) k14_twoscomp)) (k1_tarski (k48_gfacirc1 X0 X1 X2)) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.k3_msafree2 (k43_gfacirc1 X0 \\ X1 X2) = k2_xboole_0 (k1_enumset1 (k4_tarski (k10_finseq_1 X0 X1) \\ k4_twoscomp) (k4_tarski (k10_finseq_1 X1 X2) k4_twoscomp) (k4_tarski \\ (k10_finseq_1 X2 X0) k4_twoscomp)) (k1_tarski (k45_gfacirc1 X0 \\ X1 X2)) \end{aligned} \quad (4)$$

Assume the following.

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

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\forall X2.k49_gfacirc1 X0 X1 X2 = k2_circcomb (k46_gfacirc1 X0 X1 X2) (k43_gfacirc1 X0 X1 X2) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.k43_gfacirc1 X0 X1 X2 = k2_circcomb \\ (k41_gfacirc1 X0 X1 X2) (k5_circcomb k29_twoscomp (k11_finseq_1 \\ (k4_tarski (k10_finseq_1 X0 X1) k4_twoscomp) (k4_tarski (k10_finseq_1 \\ X1 X2) k4_twoscomp) (k4_tarski (k10_finseq_1 X2 X0) k4_twoscomp))) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} \forall X0.\forall X1.\forall X2.k3_msafree2 (k49_gfacirc1 X0 \\ X1 X2) = k2_xboole_0 (k2_xboole_0 (k2_xboole_0 (k1_tarski (k4_tarski \\ (k10_finseq_1 X0 X1) k14_twoscomp)) (k1_tarski (k48_gfacirc1 \\ X0 X1 X2))) (k1_enumset1 (k4_tarski (k10_finseq_1 X0 X1) k4_twoscomp) \\ (k4_tarski (k10_finseq_1 X1 X2) k4_twoscomp) (k4_tarski (k10_finseq_1 \\ X2 X0) k4_twoscomp))) (k1_tarski (k45_gfacirc1 X0 X1 X2)) \end{aligned}$$