

t63_gfacirc1

(TMHA4JM1F_x8S2oQL9sm9iSbf9j4XJ1P3kJd)

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Let $k3_msafree2 : \iota \Rightarrow \iota$ be given. Let $k25_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k4_gfacirc1 : \iota$ be given. Let $k24_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k22_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_circcomb : \iota \Rightarrow o$ 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 $v11_struct_0 : \iota \Rightarrow o$ be given. Let $v1_msualg_1 : \iota \Rightarrow o$ be given. Let $v3_circcomb : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. k3_msafree2 (k22_gfacirc1 X0 X1 X2) = k2_xboole_0 (k1_tarski (k4_tarski (k10_finseq_1 X0 X1) k4_gfacirc1)) (k1_tarski (k24_gfacirc1 X0 X1 X2)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k2_xboole_0 (k2_xboole_0 X0 X1) X2 = k2_xboole_0 X0 (k2_xboole_0 X1 X2) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k3_msafree2 (k19_gfacirc1 X0 X1 X2) = k2_xboole_0 (k1_enumset1 (k4_tarski (k10_finseq_1 X0 X1) k3_gfacirc1) (k4_tarski (k10_finseq_1 X1 X2) k3_twoscomp) (k4_tarski (k10_finseq_1 X2 X0) k2_twoscomp)) (k1_tarski (k21_gfacirc1 X0 X1 X2))) \quad (3)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v1_circcomb X0) \wedge ((v2_circcomb X0) \wedge (l1_msualg_1 X0)))) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge ((v1_circcomb X1) \wedge ((v2_circcomb X1) \wedge (l1_msualg_1 X1)))) \Rightarrow (k3_msafree2 (k2_circcomb X0 X1) = k2_xboole_0 (k3_msafree2 X0) (k3_msafree2 X1))) \quad (4)$$

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.

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

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.k3_msafree2 (k25_gfacirc1 X0 \\ & X1 X2) = k2_xboole_0 (k2_xboole_0 (k2_xboole_0 (k1_tarski (k4_tarski \\ & (k10_finseq_1 X0 X1) k4_gfacirc1)) (k1_tarski (k24_gfacirc1 X0 \\ & X1 X2))) (k1_enumset1 (k4_tarski (k10_finseq_1 X0 X1) k3_gfacirc1) \\ & (k4_tarski (k10_finseq_1 X1 X2) k3_twoscomp) (k4_tarski (k10_finseq_1 \\ & X2 X0) k2_twoscomp))) (k1_tarski (k21_gfacirc1 X0 X1 X2)) \end{aligned}$$