

t41_gfacirc1

(TMUMjuDF9uipiEqGxD6DNNi2BV576md2LBf)

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Let $k3_msafree2 : \iota \Rightarrow \iota$ be given. Let $k17_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_gfacirc1 : \iota$ be given. Let $k3_twoscomp : \iota$ be given. Let $k2_twoscomp : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k2_msafree2 : \iota \Rightarrow \iota$ be given. Let $k5_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ 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. Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 \\ X1))) \Rightarrow ((k2_msafree2 (k5_circcomb X0 X1) = k10_xtuple_0 X1) \wedge (k3_msafree2 \\ (k5_circcomb X0 X1) = k1_tarski (k4_tarski X1 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. k1_enumset1 X0 X1 X2 = k2_xboole_0 \\ (k2_tarski X0 X1) (k1_tarski X2) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge ((v1_circcomb X0) \wedge ((v2_circcomb \\ X0) \wedge (l1_msualg_1 X0)))) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge ((v1_circcomb \\ X1) \wedge ((v2_circcomb X1) \wedge (l1_msualg_1 X1)))) \Rightarrow (k3_msafree2 (k2_circcomb \\ X0 X1) = k2_xboole_0 (k3_msafree2 X0) (k3_msafree2 X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. k2_tarski X0 X1 = k2_xboole_0 (k1_tarski \\ X0) (k1_tarski X1) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_finseq_1 X1)))\Rightarrow((\neg v2_struct_0 (k5_circcomb X0 X1))\wedge((\neg v11_struct_0 (k5_circcomb X0 X1))\wedge(v1_msualg_1 (k5_circcomb X0 X1)))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1 (k10_finseq_1 X0 X1))\wedge(v1_funct_1 (k10_finseq_1 X0 X1)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v2_circcomb X0)\wedge(l1_msualg_1 X0)))\wedge((\neg v2_struct_0 X1)\wedge((v2_circcomb X1)\wedge(l1_msualg_1 X1))))\Rightarrow((\neg v2_struct_0 (k2_circcomb X0 X1))\wedge((v1_msualg_1 (k2_circcomb X0 X1))\wedge(v2_circcomb (k2_circcomb X0 X1)))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v1_circcomb X0)\wedge(l1_msualg_1 X0)))\wedge((\neg v2_struct_0 X1)\wedge((v1_circcomb X1)\wedge(l1_msualg_1 X1))))\Rightarrow((\neg v2_struct_0 (k2_circcomb X0 X1))\wedge((v1_msualg_1 (k2_circcomb X0 X1))\wedge(v1_circcomb (k2_circcomb X0 X1)))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.v1_finseq_1 (k10_finseq_1 X0 X1) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_finseq_1 X1)))\Rightarrow((\neg v11_struct_0 (k5_circcomb X0 X1))\wedge((v1_msualg_1 (k5_circcomb X0 X1))\wedge((v1_circcomb (k5_circcomb X0 X1))\wedge(v2_circcomb (k5_circcomb X0 X1))))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_finseq_1 X1)))\Rightarrow((\neg v11_struct_0 (k5_circcomb X0 X1))\wedge((v1_msualg_1 (k5_circcomb X0 X1))\wedge(l1_msualg_1 (k5_circcomb X0 X1)))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge(l1_msualg_1 X0))\wedge((\neg v2_struct_0 X1)\wedge(l1_msualg_1 X1)))\Rightarrow((\neg v2_struct_0 (k2_circcomb X0 X1))\wedge((v1_msualg_1 (k2_circcomb X0 X1))\wedge(l1_msualg_1 (k2_circcomb X0 X1)))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.k4_tarSKI X0 X1 = k2_tarSKI (k2_tarSKI X0 X1) (k1_tarSKI X0) \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.k17_gfacirc1 X0 X1 X2 = k2_circcomb \\ (k2_circcomb (k5_circcomb k3_gfacirc1 (k10_finseq_1 X0 X1)) (\\ k5_circcomb k3_twoscomp (k10_finseq_1 X1 X2))) (k5_circcomb k2_twoscomp \\ (k10_finseq_1 X2 X0)) \end{aligned} \quad (14)$$

Theorem 1

$$\begin{aligned} \forall X0.\forall X1.\forall X2.k3_msafree2 (k17_gfacirc1 X0 \\ X1 X2) = k1_enumset1 (k4_tarSKI (k10_finseq_1 X0 X1) k3_gfacirc1) \\ (k4_tarSKI (k10_finseq_1 X1 X2) k3_twoscomp) (k4_tarSKI (k10_finseq_1 \\ X2 X0) k2_twoscomp) \end{aligned}$$