

t19_fscirc_1

(TMGC9QXqJKxKec5CxJy7qQQ5WQ4uYmNp1Mg)

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Let $v1_xtuple_0 : \iota \Rightarrow o$ be given. Let $k2_msafree2 : \iota \Rightarrow \iota$ be given. Let $k8_fscirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_fscirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_msafree2 : \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_twoscomp : \iota$ be given. Let $k2_twoscomp : \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k6_fscirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_facirc_1 : \iota \Rightarrow o$ be given. Let $k2_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $k6_margrel1 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_facirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1_facirc_1 : \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1_xtuple_0 X0) \Rightarrow (\forall X1. (\neg v1_xtuple_0 X1) \Rightarrow \\
 & (\forall X2. (\neg v1_xtuple_0 X2) \Rightarrow ((k2_msafree2 (k4_fscirc_1 X0 \\
 & X1 X2) = k1_enumset1 X0 X1 X2) \wedge (k3_msafree2 (k4_fscirc_1 X0 X1 X2) = \\
 & k2_xboole_0 (k1_enumset1 (k4_tarski (k10_finseq_1 X0 X1) k3_twoscomp) \\
 & (k4_tarski (k10_finseq_1 X1 X2) k2_twoscomp) (k4_tarski (k10_finseq_1 \\
 & X0 X2) k3_twoscomp)) (k1_tarski (k6_fscirc_1 X0 X1 X2))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v1_circcomb X0) \wedge ((v2_circcomb \\
 & X0) \wedge (l1_msualg_1 X0)))) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge ((v1_circcomb \\
 & X1) \wedge ((v2_circcomb X1) \wedge (l1_msualg_1 X1)))) \Rightarrow (((v1_relat_1 (k3_msafree2 \\
 & X0) \wedge (v1_relat_1 (k3_msafree2 X1))) \Rightarrow ((v1_facirc_1 (k2_msafree2 \\
 & X0) \vee ((v1_facirc_1 (k2_msafree2 X1) \vee (k2_msafree2 (k2_circcomb \\
 & X0 X1) = k2_xboole_0 (k2_msafree2 X0) (k2_msafree2 X1))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X3)\wedge \\ & ((v1_funct_2 X3 (k4_finseq_2 np_2 k6_margrel1) k6_margrel1)\wedge \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k4_finseq_2 np_2 \\ & k6_margrel1) k6_margrel1))))))\Rightarrow(v1_relat_1 (k3_msafree2 (k8_facirc_1 \\ & X0 X1 X2 X3))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X3)\wedge \\ & ((v1_funct_2 X3 (k4_finseq_2 np_2 k6_margrel1) k6_margrel1)\wedge \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k4_finseq_2 np_2 \\ & k6_margrel1) k6_margrel1))))))\Rightarrow((X0\neq k4_tarski (k10_finseq_1 \\ & X1 X2) X3)\Rightarrow(k2_msafree2 (k8_facirc_1 X1 X2 X0 X3) = k1_enumset1 X1 \\ & X2 X0)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.v1_relat_1 (k3_msafree2 (k4_fscirc_1 X0 X1 X2)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.k2_xboole_0 X0 X0 = X0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xtuple_0 X0)\wedge((\neg v1_xtuple_0 X1)\wedge(\neg v1_xtuple_0 X2)))\Rightarrow(\neg v1_facirc_1 (k1_enumset1 X0 X1 X2)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.v1_xtuple_0 (k4_tarski X0 X1) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X3)\wedge \\ & ((v1_funct_2 X3 (k4_finseq_2 np_2 k6_margrel1) k6_margrel1)\wedge \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k4_finseq_2 np_2 \\ & k6_margrel1) k6_margrel1))))))\Rightarrow((\neg v2_struct_0 (k8_facirc_1 \\ & X0 X1 X2 X3))\wedge((\neg v11_struct_0 (k8_facirc_1 X0 X1 X2 X3))\wedge((v1_msualg_1 \\ & (k8_facirc_1 X0 X1 X2 X3))\wedge((v1_circcomb (k8_facirc_1 X0 X1 X2 X3))\wedge \\ & ((v2_circcomb (k8_facirc_1 X0 X1 X2 X3))\wedge((v3_circcomb (k8_facirc_1 \\ & X0 X1 X2 X3))\wedge(l1_msualg_1 (k8_facirc_1 X0 X1 X2 X3))))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(\neg v2_struct_0 (k4_fscirc_1 \\ & X0 X1 X2))\wedge((\neg v11_struct_0 (k4_fscirc_1 X0 X1 X2))\wedge((v1_msualg_1 \\ & (k4_fscirc_1 X0 X1 X2))\wedge((v1_circcomb (k4_fscirc_1 X0 X1 X2))\wedge \\ & ((v2_circcomb (k4_fscirc_1 X0 X1 X2))\wedge((v3_circcomb (k4_fscirc_1 \\ & X0 X1 X2))\wedge(l1_msualg_1 (k4_fscirc_1 X0 X1 X2))))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 k1_facirc_1)\wedge((v1_funct_2 k1_facirc_1 (k4_finseq_2 \\ & np_2 k6_margrel1) k6_margrel1)\wedge(m1_subset_1 k1_facirc_1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k4_finseq_2 np_2 k6_margrel1) k6_margrel1)))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.k8_fscirc_1 X0 X1 X2 = k2_circcomb \\ & (k8_facirc_1 X0 X1 X2 k1_facirc_1) (k4_fscirc_1 X0 X1 X2) \end{aligned} \quad (12)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xtuple_0 X0)\Rightarrow(\forall X1.(\neg v1_xtuple_0 X1)\Rightarrow \\ & (\forall X2.(\neg v1_xtuple_0 X2)\Rightarrow(k2_msafree2 (k8_fscirc_1 X0 X1 \\ & X2) = k1_enumset1 X0 X1 X2))) \end{aligned}$$