

t20_fscirc_1 (TMX-
uhuYZzZ6p6VJMk8uAdzMyCPm19CsvC8C)

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Let $v1_xtuple_0 : \iota \Rightarrow o$ be given. Let $k3_msafree2 : \iota \Rightarrow \iota$ be given. Let $k8_fscirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_facirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_facirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k2_msafree2 : \iota \Rightarrow \iota$ be given. Let $k4_fscirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v2_struct_0 : \iota \Rightarrow o$ 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. Let $k3_fscirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_facirc_1 : \iota$ be given. Let $k11_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. \forall X3. ((v1_funct_1 X3) \wedge \\
 & ((v1_funct_2 X3 (k4_finseq_2 np_2 k6_margrel1) k6_margrel1) \wedge \\
 & (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k4_finseq_2 np_2 \\
 & k6_margrel1) k6_margrel1)))))) \Rightarrow (k3_msafree2 (k8_facirc_1 X0 \\
 & X1 X2 X3) = k2_tarski (k4_tarski (k10_finseq_1 X0 X1) X3) (k9_facirc_1 \\
 & X0 X1 X2 X3))
 \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k2_xboole_0 (k2_xboole_0 X0 X1) X2 = k2_xboole_0 X0 (k2_xboole_0 X1 X2) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_circcomb X0) \wedge ((v2_circcomb \\ & X0) \wedge (l1_msualg_1 X0)))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v1_circcomb \\ & X1) \wedge ((v2_circcomb X1) \wedge (l1_msualg_1 X1)))) \Rightarrow (k3_msafree2 (k2_circcomb \\ & X0 X1) = k2_xboole_0 (k3_msafree2 X0) (k3_msafree2 X1))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X3) \wedge \\ & ((v1_funct_2 X3 (k4_finseq_2 np_2 k6_margrel1) k6_margrel1) \wedge \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k4_finseq_2 np_2 \\ & k6_margrel1) k6_margrel1)))))) \Rightarrow ((\neg v2_struct_0 (k8_facirc_1 \\ & X0 X1 X2 X3)) \wedge ((\neg v11_struct_0 (k8_facirc_1 X0 X1 X2 X3)) \wedge ((v1_msualg_1 \\ & (k8_facirc_1 X0 X1 X2 X3)) \wedge ((v1_circcomb (k8_facirc_1 X0 X1 X2 X3)) \wedge \\ & ((v2_circcomb (k8_facirc_1 X0 X1 X2 X3)) \wedge ((v3_circcomb (k8_facirc_1 \\ & X0 X1 X2 X3)) \wedge (l1_msualg_1 (k8_facirc_1 X0 X1 X2 X3)))))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(\neg v2_struct_0 (k4_fscirc_1 \\ & X0 X1 X2)) \wedge ((\neg v11_struct_0 (k4_fscirc_1 X0 X1 X2)) \wedge ((v1_msualg_1 \\ & (k4_fscirc_1 X0 X1 X2)) \wedge ((v1_circcomb (k4_fscirc_1 X0 X1 X2)) \wedge \\ & ((v2_circcomb (k4_fscirc_1 X0 X1 X2)) \wedge ((v3_circcomb (k4_fscirc_1 \\ & X0 X1 X2)) \wedge (l1_msualg_1 (k4_fscirc_1 X0 X1 X2)))))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 k1_facirc_1) \wedge ((v1_funct_2 k1_facirc_1 (k4_finseq_2 \\ & np_2 k6_margrel1) k6_margrel1) \wedge (m1_subset_1 k1_facirc_1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k4_finseq_2 np_2 k6_margrel1) k6_margrel1)))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k8_fscirc_1 X0 X1 X2 = k2_circcomb (k8_facirc_1 X0 X1 X2 k1_facirc_1) (k4_fscirc_1 X0 X1 X2) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.k4_fscirc_1 X0 X1 X2 = k2_circcomb \\ & (k3_fscirc_1 X0 X1 X2) (k5_circcomb k4_facirc_1 (k11_finseq_1 \\ & (k4_tarski (k10_finseq_1 X0 X1) k3_twoscomp) (k4_tarski (k10_finseq_1 \\ & X1 X2) k2_twoscomp) (k4_tarski (k10_finseq_1 X0 X2) k3_twoscomp))) \end{aligned} \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xtuple_0 X0) \Rightarrow (\forall X1.(\neg v1_xtuple_0 X1) \Rightarrow \\ & (\forall X2.(\neg v1_xtuple_0 X2) \Rightarrow (k3_msafree2 (k8_fscirc_1 X0 X1 \\ & X2) = k2_xboole_0 (k2_xboole_0 (k2_tarski (k4_tarski (k10_finseq_1 \\ & X0 X1) k1_facirc_1) (k9_facirc_1 X0 X1 X2 k1_facirc_1)) (k1_enumset1 \\ & (k4_tarski (k10_finseq_1 X0 X1) k3_twoscomp) (k4_tarski (k10_finseq_1 \\ & X1 X2) k2_twoscomp) (k4_tarski (k10_finseq_1 X0 X2) k3_twoscomp))) \\ & (k1_tarski (k6_fscirc_1 X0 X1 X2)))))) \end{aligned}$$