

t19_facirc_2
(TMUbi3SrKUhawDEeWybq3Sbbs1kJe4n7rf8)

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Let $k3_msafree2 : \iota \Rightarrow \iota$ be given. Let $k15_facirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k3_facirc_1 : \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k17_facirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v2_struct_0 : \iota \Rightarrow o$ 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 $k14_facirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_facirc_1 : \iota$ 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.

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

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. k3_msafree2 (k14_facirc_1 X0 \\ X1 X2) = k1_enumset1 (k4_tarski (k10_finseq_1 X0 X1) k3_facirc_1) \\ (k4_tarski (k10_finseq_1 X1 X2) k3_facirc_1) (k4_tarski (k10_finseq_1 \\ X2 X0) k3_facirc_1) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(v1_relat_1 (k11_finseq_1 X0 X1 X2)) \wedge (v1_funct_1 (k11_finseq_1 X0 X1 X2)) \quad (4)$$

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.

$$\forall X0.\forall X1.\forall X2.v1_finseq_1 (k11_finseq_1 X0 X1 X2) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \Rightarrow ((\neg v11_struct_0 (k5_circcomb X0 X1)) \wedge ((v1_msualg_1 (k5_circcomb X0 X1)) \wedge ((v1_circcomb (k5_circcomb X0 X1)) \wedge (v2_circcomb (k5_circcomb X0 X1))))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \Rightarrow ((\neg v11_struct_0 (k5_circcomb X0 X1)) \wedge ((v1_msualg_1 (k5_circcomb X0 X1)) \wedge (l1_msualg_1 (k5_circcomb X0 X1)))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(\neg v2_struct_0 (k14_facirc_1 X0 X1 X2)) \wedge ((\neg v11_struct_0 (k14_facirc_1 X0 X1 X2)) \wedge ((v1_msualg_1 (k14_facirc_1 X0 X1 X2)) \wedge ((v1_circcomb (k14_facirc_1 X0 X1 X2)) \wedge ((v2_circcomb (k14_facirc_1 X0 X1 X2)) \wedge ((v3_circcomb (k14_facirc_1 X0 X1 X2)) \wedge (l1_msualg_1 (k14_facirc_1 X0 X1 X2))))))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.k4_tarski X0 X1 = k2_tarski (k2_tarski X0 X1) (k1_tarski X0) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k17_facirc_1 X0 X1 X2 = k4_tarski (k11_finseq_1 (k4_tarski (k10_finseq_1 X0 X1) k3_facirc_1) (k4_tarski (k10_finseq_1 X1 X2) k3_facirc_1) (k4_tarski (k10_finseq_1 X2 X0) k3_facirc_1)) k4_facirc_1 \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.k15_facirc.1 X0 X1 X2 = k2_circcomb \\ & (k14_facirc.1 X0 X1 X2) (k5_circcomb k4_facirc.1 (k11_finseq.1 \\ & (k4_tarski (k10_finseq.1 X0 X1) k3_facirc.1) (k4_tarski (k10_finseq.1 \\ & X1 X2) k3_facirc.1) (k4_tarski (k10_finseq.1 X2 X0) k3_facirc.1))) \end{aligned} \quad (12)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.k3_msafree2 (k15_facirc.1 X0 \\ & X1 X2) = k2_xboole.0 (k1_enumset1 (k4_tarski (k10_finseq.1 X0 X1) \\ & k3_facirc.1) (k4_tarski (k10_finseq.1 X1 X2) k3_facirc.1) (k4_tarski \\ & (k10_finseq.1 X2 X0) k3_facirc.1)) (k1_tarski (k17_facirc.1 X0 \\ & X1 X2)) \end{aligned}$$