

t7_fscirc_1

(TMTCwzUPcbHcV1q6jAgrKoz2mzJVRnru1Up)

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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 $k3_msafree2 : \iota \Rightarrow \iota$ be given. Let $k4_fscirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k5_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k11_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $v1_msualg_1 : \iota \Rightarrow o$ be given. Let $k3_fscirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_circcomb : \iota \Rightarrow o$ be given. Let $k4_facirc_1 : \iota$ be given. Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_circcomb X0) \wedge ((v2_circcomb \\ X0) \wedge (l1_msualg_1 X0)))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v1_circcomb \\ X1) \wedge ((v2_circcomb X1) \wedge (l1_msualg_1 X1)))) \Rightarrow (\forall X2.(X2 \in \\ k3_msafree2 X0) \Rightarrow ((X2 \in k3_msafree2 (k2_circcomb X0 X1)) \wedge (X2 \in k3_msafree2 \\ (k2_circcomb X1 X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(v1_relat_1 (k11_finseq_1 X0 X1 X2)) \wedge (v1_funct_1 (k11_finseq_1 X0 X1 X2)) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 \\ X1))) \Rightarrow ((\neg v2_struct_0 (k5_circcomb X0 X1)) \wedge ((\neg v11_struct_0 (\\ k5_circcomb X0 X1)) \wedge (v1_msualg_1 (k5_circcomb X0 X1)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1 (k10_finseq_1 X0 X1)) \wedge (v1_funct_1 (k10_finseq_1 X0 X1)) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v2_circcomb X0) \wedge \\ & (l1_msualg_1 X0))) \wedge ((\neg v2_struct_0 X1) \wedge ((v2_circcomb X1) \wedge (l1_msualg_1 \\ & X1)))) \Rightarrow ((\neg v2_struct_0 (k2_circcomb X0 X1)) \wedge ((v1_msualg_1 (k2_circcomb \\ & X0 X1)) \wedge (v2_circcomb (k2_circcomb X0 X1)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. v1_finseq_1 (k11_finseq_1 X0 X1 X2) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v1_circcomb X0) \wedge \\ & (l1_msualg_1 X0))) \wedge ((\neg v2_struct_0 X1) \wedge ((v1_circcomb X1) \wedge (l1_msualg_1 \\ & X1)))) \Rightarrow ((\neg v2_struct_0 (k2_circcomb X0 X1)) \wedge ((v1_msualg_1 (k2_circcomb \\ & X0 X1)) \wedge (v1_circcomb (k2_circcomb X0 X1)))) \end{aligned} \quad (8)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 \\ & X1))) \Rightarrow ((\neg v11_struct_0 (k5_circcomb X0 X1)) \wedge ((v1_msualg_1 (k5_circcomb \\ & X0 X1)) \wedge ((v1_circcomb (k5_circcomb X0 X1)) \wedge (v2_circcomb (k5_circcomb \\ & X0 X1))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 \\ & X1))) \Rightarrow ((\neg v11_struct_0 (k5_circcomb X0 X1)) \wedge ((v1_msualg_1 (k5_circcomb \\ & X0 X1)) \wedge (l1_msualg_1 (k5_circcomb X0 X1)))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (\neg v2_struct_0 (k3_fscirc_1 \\ & X0 X1 X2)) \wedge ((\neg v11_struct_0 (k3_fscirc_1 X0 X1 X2)) \wedge ((v1_msualg_1 \\ & (k3_fscirc_1 X0 X1 X2)) \wedge ((v1_circcomb (k3_fscirc_1 X0 X1 X2)) \wedge \\ & ((v2_circcomb (k3_fscirc_1 X0 X1 X2)) \wedge ((v3_circcomb (k3_fscirc_1 \\ & X0 X1 X2)) \wedge (l1_msualg_1 (k3_fscirc_1 X0 X1 X2))))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \wedge \\ & ((\neg v2_struct_0 X1) \wedge (l1_msualg_1 X1))) \Rightarrow ((\neg v2_struct_0 (k2_circcomb \\ & X0 X1)) \wedge ((v1_msualg_1 (k2_circcomb X0 X1)) \wedge (l1_msualg_1 (k2_circcomb \\ & X0 X1)))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. k4_fscirc_1 X0 X1 X2 = k2_circcomb \\ & (k3_fscirc_1 X0 X1 X2) (k5_circcomb k4_facirc_1 (k11_finseq_1 \\ & (k4_tarski (k10_finseq_1 X0 X1) k3_twoscomp) (k4_tarski (k10_finseq_1 \\ & X1 X2) k2_twoscomp) (k4_tarski (k10_finseq_1 X0 X2) k3_twoscomp))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. k3_fscirc_1 X0 X1 X2 = k2_circcomb \\ & (k2_circcomb (k5_circcomb k3_twoscomp (k10_finseq_1 X0 X1)) (\\ & k5_circcomb k2_twoscomp (k10_finseq_1 X1 X2))) (k5_circcomb k3_twoscomp \\ & (k10_finseq_1 X0 X2)) \end{aligned} \quad (15)$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (k4_tarski (k10_finseq_1 X0 \\ & X1) k3_twoscomp \in k3_msafree2 (k4_fscirc_1 X0 X1 X2)) \wedge ((k4_tarski \\ & (k10_finseq_1 X1 X2) k2_twoscomp \in k3_msafree2 (k4_fscirc_1 X0 \\ & X1 X2)) \wedge (k4_tarski (k10_finseq_1 X0 X2) k3_twoscomp \in k3_msafree2 \\ & (k4_fscirc_1 X0 X1 X2))) \end{aligned}$$