

t36_facirc_1

(TMZGcEzSNG6Zbev9fiqrZNMxacaRWHzgE87)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $v1_circcomb : \iota \Rightarrow o$ be given. Let $v2_circcomb : \iota \Rightarrow o$ be given. Let $v3_circcomb : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $v4_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_msafree2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_circcomb : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v6_circcomb : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l3_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_card_3 : \iota \Rightarrow \iota$ be given. Let $u3_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $r1_facirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_circuit2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2_msualg_1 : \iota \Rightarrow \iota$ be given. Let $v2_msafree2 : \iota \Rightarrow o$ be given. Let $k1_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_msualg_1 : \iota \Rightarrow \iota$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (k1_xtuple_0 (k4_tarski X0 X1) = X0) \wedge (k2_xtuple_0 (k4_tarski X0 X1) = X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow ((v1_circcomb X0) \Leftrightarrow (\forall X1. (X1 \in u4_struct_0 X0) \Rightarrow (k1_funct_1 (u2_msualg_1 X0) X1 = X1))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_msafree2 \\
& X0) \wedge (l1_msualg_1 X0)))) \Rightarrow (\forall X1.((v4_msualg_1 X1 X0) \wedge ((\\
& v4_msafree2 X1 X0) \wedge (l3_msualg_1 X1 X0))) \Rightarrow (\forall X2.(m1_subset_1 \\
& X2 (k4_card_3 (u3_msualg_1 X0 X1))) \Rightarrow (\forall X3.(m1_subset_1 \\
& X3 (u4_struct_0 X0)) \Rightarrow ((\forall X4.(X4 \in k10_xtuple_0 (k1_msualg_1 \\
& X0 X3)) \Rightarrow (r1_facirc_1 X0 X1 X2 X4)) \Rightarrow (r1_facirc_1 X0 X1 (k6_circuit2 \\
& X0 X1 X2) (k2_msualg_1 X0 X3))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0) \wedge \\
& (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 \\
& X1 X2 X3 = k1_funct_1 X2 X3)
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_msualg_1 X0) \Rightarrow ((v1_funct_1 (u2_msualg_1 X0)) \wedge \\
& ((v1_funct_2 (u2_msualg_1 X0) (u4_struct_0 X0) (u1_struct_0 X0)) \wedge \\
& (m1_subset_1 (u2_msualg_1 X0) (k1_zfmisc_1 (k2_zfmisc_1 (u4_struct_0 \\
& X0) (u1_struct_0 X0))))))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_msualg_1 X0) \Rightarrow ((v1_funct_1 (u1_msualg_1 X0)) \wedge \\
& ((v1_funct_2 (u1_msualg_1 X0) (u4_struct_0 X0) (k3_finseq_2 (\\
& u1_struct_0 X0))) \wedge (m1_subset_1 (u1_msualg_1 X0) (k1_zfmisc_1 \\
& (k2_zfmisc_1 (u4_struct_0 X0) (k3_finseq_2 (u1_struct_0 X0))))))
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_msualg_1 X0) \Rightarrow ((v2_circcomb X0) \Leftrightarrow (\forall X1.(\\
& X1 \in u4_struct_0 X0) \Rightarrow (X1 = k4_tarski (k1_funct_1 (u1_msualg_1 X0) \\
& X1) (k2_xtuple_0 X1))))
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 \\
& X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u4_struct_0 X0)) \Rightarrow (k2_msualg_1 \\
& X0 X1 = k3_funct_2 (u4_struct_0 X0) (u1_struct_0 X0) (u2_msualg_1 \\
& X0) X1))
\end{aligned} \tag{10}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 \\
& X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u4_struct_0 X0)) \Rightarrow (k1_msualg_1 \\
& X0 X1 = k3_funct_2 (u4_struct_0 X0) (k3_finseq_2 (u1_struct_0 X0) \\
& (u1_msualg_1 X0) X1))
\end{aligned} \tag{11}$$

Assume the following.

$$\forall X0.(l1_msualg_1 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge (v1_circcomb X0)) \Rightarrow ((\neg v2_struct_0 X0) \wedge (v2_msafree2 X0))) \quad (12)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v1_circcomb X0) \wedge ((v2_circcomb X0) \wedge ((v3_circcomb X0) \wedge (l1_msualg_1 X0)))))) \Rightarrow \\ & (\forall X1.((v4_msualg_1 X1 X0) \wedge ((v4_msafree2 X1 X0) \wedge ((v4_circcomb X1 X0) \wedge ((v6_circcomb X1 X0) \wedge (l3_msualg_1 X1 X0)))))) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (k4_card_3 (u3_msualg_1 X0 X1))) \Rightarrow (\forall X3. \\ & ((v1_relat_1 X3) \wedge ((v1_funct_1 X3) \wedge (v1_finseq_1 X3))) \Rightarrow (\forall X4. \\ & ((v1_relat_1 X4) \wedge (v1_funct_1 X4)) \Rightarrow (((k4_tarski X3 X4 \in u4_struct_0 X0) \wedge (\forall X5.(X5 \in k10_xtuple_0 X3) \Rightarrow (r1_facirc_1 X0 X1 X2 X5))) \Rightarrow \\ & (r1_facirc_1 X0 X1 (k6_circuit2 X0 X1 X2) (k4_tarski X3 X4)))))) \end{aligned}$$