

t19_circcmb3
(TMGz8KU7d4vs98DhBe84hYuT5XrZxfZdu7c)

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Let $v4_circcmb3 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $v4_msafree2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_circcmb3 : \iota \Rightarrow \iota \Rightarrow o$ 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 $v1_circuit2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_circuit2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v3_card_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_circcomb : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v8_struct_0 : \iota \Rightarrow o$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $v1_msualg_1 : \iota \Rightarrow o$ be given. Let $v1_circcomb : \iota \Rightarrow o$ be given. Let $v2_circcomb : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)) \Rightarrow (\forall X1. \\ & (v7_ordinal1 X1) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge ((v1_funct_1 \\ & X2) \wedge ((v3_card_1 X2 X1) \wedge (v1_finseq_1 X2)))) \Rightarrow (\forall X3.((v1_funct_1 \\ & X3) \wedge ((v1_funct_2 X3 (k4_finseq_2 X1 X0) X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k4_finseq_2 X1 X0) X0)))) \Rightarrow (\forall X4.(m1_subset_1 \\ & X4 (k4_card_3 (u3_msualg_1 (k5_circcomb X3 X2) (k7_circcomb X1 \\ & X0 X3 X2)))) \Rightarrow (v1_circuit2 (k6_circuit2 (k5_circcomb X3 X2) (k7_circcomb \\ & X1 X0 X3 X2) X4) (k5_circcomb X3 X2) (k7_circcomb X1 X0 X3 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (\forall X1. \\
& (l3_msualg_1 X1 X0) \Rightarrow ((v5_circcmb3 X1 X0) \Leftrightarrow (\exists X2.((\neg v1_xboole_0 \\
& X2) \wedge (v1_finset_1 X2)) \wedge (\exists X3.(m1_subset_1 X3 k5_numbers) \wedge \\
& (\exists X4.((v1_relat_1 X4) \wedge ((v1_funct_1 X4) \wedge ((v3_card_1 X4 \\
& X3) \wedge (v1_finseq_1 X4)))))) \wedge (\exists X5.((v1_funct_1 X5) \wedge ((v1_funct_2 \\
& X5 (k4_finseq_2 X3 X2) X2) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k4_finseq_2 X3 X2) X2)))))) \wedge ((X0 = k5_circcomb X5 X4) \wedge (X1 = k7_circcomb \\
& X3 X2 X5 X4))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_msualg_1 X0) \Rightarrow ((v4_circcmb3 X0) \Rightarrow ((\neg v2_struct_0 \\
& X0) \wedge ((v8_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v1_msualg_1 X0) \wedge \\
& ((v1_circcomb X0) \wedge (v2_circcomb X0))))))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v4_circcmb3 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (\forall X1. \\
& ((v4_msafree2 X1 X0) \wedge ((v5_circcmb3 X1 X0) \wedge (l3_msualg_1 X1 X0))) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 (k4_card_3 (u3_msualg_1 X0 X1))) \Rightarrow \\
& (v1_circuit2 (k6_circuit2 X0 X1 X2) X0 X1))
\end{aligned}$$