

t54_facirc_1

(TMS8HBV8QRLxD2QnsaQhkYy1GaC2Xy2z1mq)

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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 $np_3 : \iota$ 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 $k4_card_3 : \iota \Rightarrow \iota$ be given. Let $u3_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_facirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_circuit2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $k7_circcomb : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $np_1 : \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X3) \wedge \\
 & (v1_finset_1 X3)) \Rightarrow (\forall X4. ((v1_funct_1 X4) \wedge ((v1_funct_2 \\
 & X4 (k4_finseq_2 np_3 X3) X3) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & (k4_finseq_2 np_3 X3) X3)))) \Rightarrow (\forall X5. (m1_subset_1 X5 (k4_card_3 \\
 & (u3_msualg_1 (k5_circcomb X4 (k11_finseq_1 X0 X1 X2)) (k7_circcomb \\
 & np_3 X3 X4 (k11_finseq_1 X0 X1 X2)))) \Rightarrow ((k1_funct_1 (k6_circuit2 \\
 & (k5_circcomb X4 (k11_finseq_1 X0 X1 X2)) (k7_circcomb np_3 X3 X4 \\
 & (k11_finseq_1 X0 X1 X2)) X5) (k4_tarski (k11_finseq_1 X0 X1 X2) X4) = \\
 & k1_funct_1 X4 (k11_finseq_1 (k1_funct_1 X5 X0) (k1_funct_1 X5 X1) \\
 & (k1_funct_1 X5 X2))) \wedge ((k1_funct_1 (k6_circuit2 (k5_circcomb \\
 & X4 (k11_finseq_1 X0 X1 X2)) (k7_circcomb np_3 X3 X4 (k11_finseq_1 \\
 & X0 X1 X2)) X5) X0 = k1_funct_1 X5 X0) \wedge ((k1_funct_1 (k6_circuit2 (\\
 & k5_circcomb X4 (k11_finseq_1 X0 X1 X2)) (k7_circcomb np_3 X3 X4 \\
 & (k11_finseq_1 X0 X1 X2)) X5) X1 = k1_funct_1 X5 X1) \wedge (k1_funct_1 (\\
 & k6_circuit2 (k5_circcomb X4 (k11_finseq_1 X0 X1 X2)) (k7_circcomb \\
 & np_3 X3 X4 (k11_finseq_1 X0 X1 X2)) X5) X2 = k1_funct_1 X5 X2))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\neg v1_xboole_0 k6_margrel1 \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.v1_finset_1 (k2_tarski X0 X1) \quad (3)$$

Assume the following.

$$k6_margrel1 = k2_tarski k6_numbers np_1 \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X3)\wedge \\ & ((v1_funct_2 X3 (k4_finseq_2 np_3 k6_margrel1) k6_margrel1)\wedge \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k4_finseq_2 np_3 \\ & k6_margrel1) k6_margrel1))))\Rightarrow(k7_facirc_1 X0 X1 X2 X3 = k7_circcomb \\ & np_3 k6_margrel1 X3 (k11_finseq_1 X0 X1 X2))) \end{aligned} \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X3)\wedge \\ & ((v1_funct_2 X3 (k4_finseq_2 np_3 k6_margrel1) k6_margrel1)\wedge \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k4_finseq_2 np_3 \\ & k6_margrel1) k6_margrel1))))\Rightarrow(\forall X4.(m1_subset_1 X4 (\\ & k4_card_3 (u3_msualg_1 (k5_circcomb X3 (k11_finseq_1 X0 X1 X2)) \\ & (k7_facirc_1 X0 X1 X2 X3))))\Rightarrow((k1_funct_1 (k6_circuit2 (k5_circcomb \\ & X3 (k11_finseq_1 X0 X1 X2)) (k7_facirc_1 X0 X1 X2 X3) X4) (k4_tarski \\ & (k11_finseq_1 X0 X1 X2) X3) = k1_funct_1 X3 (k11_finseq_1 (k1_funct_1 \\ & X4 X0) (k1_funct_1 X4 X1) (k1_funct_1 X4 X2)))\wedge((k1_funct_1 (k6_circuit2 \\ & (k5_circcomb X3 (k11_finseq_1 X0 X1 X2)) (k7_facirc_1 X0 X1 X2 X3) \\ & X4) X0 = k1_funct_1 X4 X0)\wedge((k1_funct_1 (k6_circuit2 (k5_circcomb \\ & X3 (k11_finseq_1 X0 X1 X2)) (k7_facirc_1 X0 X1 X2 X3) X4) X1 = k1_funct_1 \\ & X4 X1)\wedge(k1_funct_1 (k6_circuit2 (k5_circcomb X3 (k11_finseq_1 \\ & X0 X1 X2)) (k7_facirc_1 X0 X1 X2 X3) X4) X2 = k1_funct_1 X4 X2)))))) \end{aligned}$$