

t64_facirc_1 (TMVLD- diEys8BzmgCsiWdUkJWef5B5KoR1M4)

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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 $k1_facirc_1 : \iota$ 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 $k8_facirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_facirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_margrel1 : \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_facirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_facirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $k9_facirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_binarith : \iota \Rightarrow \iota \Rightarrow \iota$ be given. 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((v1_funct_1 X3) \wedge \\
& ((v1_funct_2 X3 (k4_finseq_2 np_2 k6_margrel1) k6_margrel1) \wedge \\
& (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k4_finseq_2 np_2 \\
& k6_margrel1) k6_margrel1)))))) \Rightarrow (\forall X4. (m1_subset_1 X4 (\\
& k4_card_3 (u3_msualg_1 (k8_facirc_1 X1 X2 X0 X3) (k10_facirc_1 \\
& X1 X2 X0 X3)))) \Rightarrow ((X0 \neq k4_tarski (k10_finseq_1 X1 X2) X3) \Rightarrow ((k11_facirc_1 \\
& (k8_facirc_1 X1 X2 X0 X3) (k10_facirc_1 X1 X2 X0 X3) (k5_facirc_1 \\
& (k8_facirc_1 X1 X2 X0 X3) (k10_facirc_1 X1 X2 X0 X3) X4 np_2) (k9_facirc_1 \\
& X1 X2 X0 X3) = k1_funct_1 X3 (k10_finseq_1 (k1_funct_1 X3 (k10_finseq_1 \\
& (k1_funct_1 X4 X1) (k1_funct_1 X4 X2))) (k1_funct_1 X4 X0))) \wedge ((\\
& k1_funct_1 (k5_facirc_1 (k8_facirc_1 X1 X2 X0 X3) (k10_facirc_1 \\
& X1 X2 X0 X3) X4 np_2) (k4_tarski (k10_finseq_1 X1 X2) X3) = k1_funct_1 \\
& X3 (k10_finseq_1 (k1_funct_1 X4 X1) (k1_funct_1 X4 X2))) \wedge ((k1_funct_1 \\
& (k5_facirc_1 (k8_facirc_1 X1 X2 X0 X3) (k10_facirc_1 X1 X2 X0 X3) \\
& X4 np_2) X1 = k1_funct_1 X4 X1) \wedge ((k1_funct_1 (k5_facirc_1 (k8_facirc_1 \\
& X1 X2 X0 X3) (k10_facirc_1 X1 X2 X0 X3) X4 np_2) X2 = k1_funct_1 X4 X2) \wedge \\
& (k1_funct_1 (k5_facirc_1 (k8_facirc_1 X1 X2 X0 X3) (k10_facirc_1 \\
& X1 X2 X0 X3) X4 np_2) X0 = k1_funct_1 X4 X0))))))))) \quad (1)
\end{aligned}$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 k6_margrel1) \wedge (m1_subset_1 X1 k6_margrel1)) \Rightarrow (m1_subset_1 (k2_binarith X0 X1) k6_margrel1) \quad (2)$$

Assume the following.

$$(v1_funct_1\ k1_facirc_1) \wedge ((v1_funct_2\ k1_facirc_1\ (k4_finseq_2\ np_2\ k6_margrel1)\ k6_margrel1) \wedge (m1_subset_1\ k1_facirc_1\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k4_finseq_2\ np_2\ k6_margrel1)\ k6_margrel1)))) \quad (3)$$

Assume the following.

$$\forall X0. ((v1_funct_1\ X0) \wedge ((v1_funct_2\ X0\ (k4_finseq_2\ np_2\ k6_margrel1)\ k6_margrel1) \wedge (m1_subset_1\ X0\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k4_finseq_2\ np_2\ k6_margrel1)\ k6_margrel1)))))) \Rightarrow ((X0 = k1_facirc_1) \Leftrightarrow (\forall X1. (m1_subset_1\ X1\ k6_margrel1) \Rightarrow (\forall X2. (m1_subset_1\ X2\ k6_margrel1) \Rightarrow (k1_funct_1\ X0\ (k10_finseq_1\ X1\ X2) = k2_binarith\ X1\ X2)))))) \quad (4)$$

Theorem 1

$$\forall X0. \forall X1. \forall X2. (X0 \neq k4_tarski\ (k10_finseq_1\ X1\ X2)\ k1_facirc_1) \Rightarrow (\forall X3. (m1_subset_1\ X3\ (k4_card_3\ (u3_msualg_1\ (k8_facirc_1\ X1\ X2\ X0\ k1_facirc_1)\ (k10_facirc_1\ X1\ X2\ X0\ k1_facirc_1)))))) \Rightarrow (\forall X4. (m1_subset_1\ X4\ k6_margrel1) \Rightarrow (\forall X5. (m1_subset_1\ X5\ k6_margrel1) \Rightarrow (\forall X6. (m1_subset_1\ X6\ k6_margrel1) \Rightarrow ((X4 = k1_funct_1\ X3\ X1) \wedge ((X5 = k1_funct_1\ X3\ X2) \wedge (X6 = k1_funct_1\ X3\ X0))) \Rightarrow (k11_facirc_1\ (k8_facirc_1\ X1\ X2\ X0\ k1_facirc_1)\ (k10_facirc_1\ X1\ X2\ X0\ k1_facirc_1)\ (k5_facirc_1\ (k8_facirc_1\ X1\ X2\ X0\ k1_facirc_1)\ (k10_facirc_1\ X1\ X2\ X0\ k1_facirc_1)\ X3\ np_2)\ (k9_facirc_1\ X1\ X2\ X0\ k1_facirc_1) = k2_binarith\ (k2_binarith\ X4\ X5)\ X6))))))$$