

t3_gfacirc1

(TMTpWRgXkt89gnc9bqscegCM1YkE11PwrBS)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_margrel1 : \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_gfacirc1 : \iota$ be given. Let $k10_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_margrel1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_margrel1 : \iota \Rightarrow \iota$ be given. Let $k3_twoscomp : \iota$ be given. Let $k12_twoscomp : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $np_1 : \iota$ be given. Let $k2_twoscomp : \iota$ be given. Let $k4_twoscomp : \iota$ be given. Let $k13_twoscomp : \iota$ be given. Let $k11_twoscomp : \iota$ be given. Let $k8_margrel1 : \iota$ be given. Let $k2_xboolean : \iota$ be given. Let $k7_margrel1 : \iota$ be given. Let $k1_xboolean : \iota$ 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 $np_2 : \iota$ 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.

$$\begin{aligned}
 & (k1_funct_1 \ k2_twoscomp \ (k10_finseq_1 \ k6_numbers \ k6_numbers) = \\
 & \quad k6_numbers) \wedge ((k1_funct_1 \ k2_twoscomp \ (k10_finseq_1 \ k6_numbers \\
 & \quad np_1) = k6_numbers) \wedge ((k1_funct_1 \ k2_twoscomp \ (k10_finseq_1 \\
 & \quad np_1 \ k6_numbers) = k6_numbers) \wedge ((k1_funct_1 \ k2_twoscomp \ (k10_finseq_1 \\
 & \quad np_1 \ np_1) = np_1) \wedge ((k1_funct_1 \ k3_twoscomp \ (k10_finseq_1 \\
 & \quad k6_numbers \ k6_numbers) = k6_numbers) \wedge ((k1_funct_1 \ k3_twoscomp \\
 & \quad (k10_finseq_1 \ k6_numbers \ np_1) = np_1) \wedge ((k1_funct_1 \ k3_twoscomp \\
 & \quad (k10_finseq_1 \ np_1 \ np_1) = k6_numbers) \wedge ((k1_funct_1 \ k4_twoscomp \\
 & \quad (k10_finseq_1 \ k6_numbers \ k6_numbers) = np_1) \wedge ((k1_funct_1 \ k4_twoscomp \\
 & \quad (k10_finseq_1 \ k6_numbers \ np_1) = k6_numbers) \wedge ((k1_funct_1 \ k4_twoscomp \\
 & \quad (k10_finseq_1 \ np_1 \ k6_numbers) = k6_numbers) \wedge ((k1_funct_1 \ k4_twoscomp \\
 & \quad (k10_finseq_1 \ np_1 \ np_1) = k6_numbers)))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k6_margrel1) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 k6_margrel1) \Rightarrow ((k1_funct_1 k2_twoscomp (k10_finseq_1 X0 X1) = \\ k1_funct_1 k13_twoscomp (k10_finseq_1 X0 X1)) \wedge ((k1_funct_1 k3_twoscomp \\ (k10_finseq_1 X0 X1) = k1_funct_1 k12_twoscomp (k10_finseq_1 X1 \\ X0)) \wedge (k1_funct_1 k4_twoscomp (k10_finseq_1 X0 X1) = k1_funct_1 \\ k11_twoscomp (k10_finseq_1 X0 X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k6_margrel1) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 k6_margrel1) \Rightarrow ((k1_funct_1 k2_twoscomp (k10_finseq_1 X0 X1) = \\ k10_margrel1 X0 X1) \wedge ((k1_funct_1 k3_twoscomp (k10_finseq_1 X0 \\ X1) = k10_margrel1 (k9_margrel1 X0) X1) \wedge (k1_funct_1 k4_twoscomp \\ (k10_finseq_1 X0 X1) = k10_margrel1 (k9_margrel1 X0) (k9_margrel1 \\ X1)))))) \end{aligned} \quad (3)$$

Assume the following.

$$k8_margrel1 = k2_xboolean \quad (4)$$

Assume the following.

$$k7_margrel1 = k1_xboolean \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k6_margrel1) \wedge (m1_subset_1 \\ X1 k6_margrel1)) \Rightarrow (k10_margrel1 X0 X0 = X0) \quad (6)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k6_margrel1) \Rightarrow (m1_subset_1 (k9_margrel1 \\ X0) k6_margrel1) \quad (7)$$

Assume the following.

$$m1_subset_1 k8_margrel1 k6_margrel1 \quad (8)$$

Assume the following.

$$m1_subset_1 k7_margrel1 k6_margrel1 \quad (9)$$

Assume the following.

$$\begin{aligned} (v1_funct_1 k12_twoscomp) \wedge ((v1_funct_2 k12_twoscomp (k4_finseq_2 \\ np_2 k6_margrel1) k6_margrel1) \wedge (m1_subset_1 k12_twoscomp (\\ k1_zfmisc_1 (k2_zfmisc_1 (k4_finseq_2 np_2 k6_margrel1) k6_margrel1)))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 (k4_finseq_2 np_2 \\ k6_margrel1) k6_margrel1) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\ (k4_finseq_2 np_2 k6_margrel1) k6_margrel1)))))) \Rightarrow ((X0 = k3_gfacirc1) \Leftrightarrow \\ (\forall X1.(m1_subset_1 X1 k6_margrel1) \Rightarrow (\forall X2.(m1_subset_1 \\ X2 k6_margrel1) \Rightarrow (k1_funct_1 X0 (k10_finseq_1 X1 X2) = k10_margrel1 \\ X1 (k9_margrel1 X2)))))) \end{aligned} \quad (11)$$

Assume the following.

$$k2_xboolean = np_1 \quad (12)$$

Assume the following.

$$k1_xboolean = k6_numbers \quad (13)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 k6_margrel1) \wedge (m1_subset_1 \\ X1 k6_margrel1)) \Rightarrow (k10_margrel1 X0 X1 = k10_margrel1 X1 X0) \quad (14)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k6_margrel1) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 k6_margrel1) \Rightarrow ((k1_funct_1 k3_gfacirc1 (k10_finseq_1 X0 X1) = \\ k10_margrel1 X0 (k9_margrel1 X1)) \wedge ((k1_funct_1 k3_gfacirc1 (\\ k10_finseq_1 X0 X1) = k1_funct_1 k3_twoscomp (k10_finseq_1 X1 X0)) \wedge \\ ((k1_funct_1 k3_gfacirc1 (k10_finseq_1 X0 X1) = k1_funct_1 k12_twoscomp \\ (k10_finseq_1 X0 X1)) \wedge ((k1_funct_1 k3_gfacirc1 (k10_finseq_1 \\ k6_numbers k6_numbers) = k6_numbers) \wedge ((k1_funct_1 k3_gfacirc1 \\ (k10_finseq_1 k6_numbers np_1) = k6_numbers) \wedge ((k1_funct_1 k3_gfacirc1 \\ (k10_finseq_1 np_1 k6_numbers) = np_1) \wedge (k1_funct_1 k3_gfacirc1 \\ (k10_finseq_1 np_1 np_1) = k6_numbers)))))))))) \end{aligned}$$