

t7_twoscomp
(TMauxJ2E6sNUrFRVyFGG5HXZDAWxWnRH7ML)

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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 $k8_twoscomp : \iota$ be given. Let $k10_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_twoscomp : \iota$ be given. Let $k9_twoscomp : \iota$ be given. Let $k6_twoscomp : \iota$ be given. Let $k10_twoscomp : \iota$ be given. Let $k5_twoscomp : \iota$ be given. Let $k2_twoscomp : \iota$ be given. Let $k13_twoscomp : \iota$ be given. Let $k3_twoscomp : \iota$ be given. Let $k12_twoscomp : \iota$ be given. Let $k4_twoscomp : \iota$ be given. Let $k11_twoscomp : \iota$ be given. Let $k9_margrel1 : \iota \Rightarrow \iota$ be given. Let $k1_binarith : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_margrel1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboolean : \iota \Rightarrow \iota$ be given. Let $k5_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboolean : \iota \Rightarrow o$ 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.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k6_margrel1) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k6_margrel1) \Rightarrow ((k1_funct_1 k2_twoscomp (k10_finseq_1 X0 X1) = \\ & k1_funct_1 k13_twoscomp (k10_finseq_1 X0 X1)) \wedge ((k1_funct_1 k3_twoscomp \\ & (k10_finseq_1 X0 X1) = k1_funct_1 k12_twoscomp (k10_finseq_1 X1 \\ & X0)) \wedge (k1_funct_1 k4_twoscomp (k10_finseq_1 X0 X1) = k1_funct_1 \\ & k11_twoscomp (k10_finseq_1 X0 X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k6_margrel1) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k6_margrel1) \Rightarrow ((k1_funct_1 k11_twoscomp (k10_finseq_1 X0 X1) = \\ & k9_margrel1 (k1_binarith X0 X1)) \wedge ((k1_funct_1 k12_twoscomp (\\ & k10_finseq_1 X0 X1) = k9_margrel1 (k1_binarith (k9_margrel1 X0 \\ & X1)) \wedge (k1_funct_1 k13_twoscomp (k10_finseq_1 X0 X1) = k9_margrel1 \\ & (k1_binarith (k9_margrel1 X0) (k9_margrel1 X1)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k6_margrel1) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 k6_margrel1) \Rightarrow ((k1_funct_1 k8_twoscomp (k10_finseq_1 X0 X1) = \\ k1_binarith X0 X1) \wedge ((k1_funct_1 k9_twoscomp (k10_finseq_1 X0 \\ X1) = k1_binarith (k9_margrel1 X0) X1) \wedge (k1_funct_1 k10_twoscomp \\ (k10_finseq_1 X0 X1) = k1_binarith (k9_margrel1 X0) (k9_margrel1 \\ X1)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k6_margrel1) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 k6_margrel1) \Rightarrow ((k1_funct_1 k5_twoscomp (k10_finseq_1 X0 X1) = \\ k9_margrel1 (k10_margrel1 X0 X1)) \wedge ((k1_funct_1 k6_twoscomp (\\ k10_finseq_1 X0 X1) = k9_margrel1 (k10_margrel1 (k9_margrel1 X0) \\ X1)) \wedge (k1_funct_1 k7_twoscomp (k10_finseq_1 X0 X1) = k9_margrel1 \\ (k10_margrel1 (k9_margrel1 X0) (k9_margrel1 X1)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k6_margrel1) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 k6_margrel1) \Rightarrow ((k1_funct_1 k2_twoscomp (k10_finseq_1 X0 X1) = \\ k10_margrel1 X0 X1) \wedge ((k1_funct_1 k3_twoscomp (k10_finseq_1 X0 \\ X1) = k10_margrel1 (k9_margrel1 X0) X1) \wedge (k1_funct_1 k4_twoscomp \\ (k10_finseq_1 X0 X1) = k10_margrel1 (k9_margrel1 X0) (k9_margrel1 \\ X1)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k6_margrel1) \Rightarrow (k9_margrel1 X0 = k3_xboolean X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k6_margrel1) \wedge (m1_subset_1 \\ X1 k6_margrel1)) \Rightarrow (k1_binarith X0 X1 = k5_xboolean X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k6_margrel1) \wedge (m1_subset_1 \\ X1 k6_margrel1)) \Rightarrow (k10_margrel1 X0 X1 = k4_xboolean X0 X1) \quad (8)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k6_margrel1) \Rightarrow (k9_margrel1 (k9_margrel1 \\ X0) = X0) \quad (9)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (k3_xboolean (k3_xboolean X0) = X0) \quad (10)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k6_margrel1) \Rightarrow (m1_subset_1 (k9_margrel1 X0) k6_margrel1) \quad (11)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (v1_xboolean (k3_xboolean X0)) \quad (12)$$

Assume the following.

$$(v1_funct_1 k2_twoscomp) \wedge ((v1_funct_2 k2_twoscomp (k4_finseq_2 np_2 k6_margrel1) k6_margrel1) \wedge (m1_subset_1 k2_twoscomp (k1_zfmisc_1 (k2_zfmisc_1 (k4_finseq_2 np_2 k6_margrel1) k6_margrel1)))) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k6_margrel1) \wedge (m1_subset_1 X1 k6_margrel1)) \Rightarrow (m1_subset_1 (k1_binarith X0 X1) k6_margrel1) \quad (14)$$

Assume the following.

$$(v1_funct_1 k13_twoscomp) \wedge ((v1_funct_2 k13_twoscomp (k4_finseq_2 np_2 k6_margrel1) k6_margrel1) \wedge (m1_subset_1 k13_twoscomp (k1_zfmisc_1 (k2_zfmisc_1 (k4_finseq_2 np_2 k6_margrel1) k6_margrel1)))) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k6_margrel1) \wedge (m1_subset_1 X1 k6_margrel1)) \Rightarrow (m1_subset_1 (k10_margrel1 X0 X1) k6_margrel1) \quad (16)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (k5_xboolean X0 X1 = k3_xboolean (k4_xboolean (k3_xboolean X0) (k3_xboolean X1)))) \quad (17)$$

Assume the following.

$$\forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 (k4_finseq_2 np_2 k6_margrel1) k6_margrel1) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 (k4_finseq_2 np_2 k6_margrel1) k6_margrel1)))))) \Rightarrow ((X0 = k2_twoscomp) \Leftrightarrow (\forall X1.(m1_subset_1 X1 k6_margrel1) \Rightarrow (\forall X2.(m1_subset_1 X2 k6_margrel1) \Rightarrow (k1_funct_1 X0 (k10_finseq_1 X1 X2) = k10_margrel1 X1 X2)))) \quad (18)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 (k4_finseq_2 np_2 \\
& k6_margrel1) k6_margrel1) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k4_finseq_2 np_2 k6_margrel1) k6_margrel1)))) \Rightarrow ((X0 = k13_twoscomp) \Leftrightarrow \\
& (\forall X1.(m1_subset_1 X1 k6_margrel1) \Rightarrow (\forall X2.(m1_subset_1 \\
& X2 k6_margrel1) \Rightarrow (k1_funct_1 X0 (k10_finseq_1 X1 X2) = k9_margrel1 \\
& (k1_binarith (k9_margrel1 X1) (k9_margrel1 X2)))))
\end{aligned} \tag{19}$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 k6_margrel1) \wedge (m1_subset_1 X1 k6_margrel1)) \Rightarrow (k1_binarith X0 X1 = k1_binarith X1 X0) \tag{20}$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 k6_margrel1) \wedge (m1_subset_1 X1 k6_margrel1)) \Rightarrow (k10_margrel1 X0 X1 = k10_margrel1 X1 X0) \tag{21}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k6_margrel1) \Rightarrow (v1_xboolean X0) \tag{22}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k6_margrel1) \Rightarrow (\forall X1.(m1_subset_1 \\
& X1 k6_margrel1) \Rightarrow ((k1_funct_1 k8_twoscomp (k10_finseq_1 X0 X1) = \\
& k1_funct_1 k7_twoscomp (k10_finseq_1 X0 X1)) \wedge ((k1_funct_1 k9_twoscomp \\
& (k10_finseq_1 X0 X1) = k1_funct_1 k6_twoscomp (k10_finseq_1 X1 \\
& X0)) \wedge (k1_funct_1 k10_twoscomp (k10_finseq_1 X0 X1) = k1_funct_1 \\
& k5_twoscomp (k10_finseq_1 X0 X1))))))
\end{aligned}$$