

t126_gfacirc1 (TMWBgm- Phr8Nr3G8QsYXEZrvFBXEfviRPB3n)

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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 $k14_twoscomp : \iota$ 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 $k46_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k47_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_margrel1 : \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_twoscomp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_facirc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $k48_gfacirc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_margrel1 : \iota \Rightarrow \iota$ be given. Let $k2_binarith : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboolean : \iota \Rightarrow o$ be given. Let $k3_xboolean : \iota \Rightarrow \iota$ be given. Let $k10_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (k3_xboolean \\ (k10_xboolean X0 X1) = k10_xboolean (k3_xboolean X0) X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(X2 \neq k4_tarski (k10_finseq_1 \\ X0 X1) k14_twoscomp) \Rightarrow (\forall X3.(m1_subset_1 X3 (k4_card_3 (\\ u3_msualg_1 (k46_gfacirc1 X0 X1 X2) (k47_gfacirc1 X0 X1 X2)))) \Rightarrow \\ (\forall X4.(m1_subset_1 X4 k6_margrel1) \Rightarrow (\forall X5.(m1_subset_1 \\ X5 k6_margrel1) \Rightarrow (\forall X6.(m1_subset_1 X6 k6_margrel1) \Rightarrow ((\\ (X4 = k1_funct_1 X3 X0) \wedge ((X5 = k1_funct_1 X3 X1) \wedge (X6 = k1_funct_1 \\ X3 X2))) \Rightarrow ((k1_twoscomp (k46_gfacirc1 X0 X1 X2) (k47_gfacirc1 X0 \\ X1 X2) (k5_facirc_1 (k46_gfacirc1 X0 X1 X2) (k47_gfacirc1 X0 X1 X2) \\ X3 np_2) (k48_gfacirc1 X0 X1 X2) = k2_binarith (k2_binarith X4 X5) \\ X6) \wedge ((k1_funct_1 (k5_facirc_1 (k46_gfacirc1 X0 X1 X2) (k47_gfacirc1 \\ X0 X1 X2) X3 np_2) (k4_tarski (k10_finseq_1 X0 X1) k14_twoscomp) = \\ k2_binarith X4 X5) \wedge ((k1_funct_1 (k5_facirc_1 (k46_gfacirc1 X0 \\ X1 X2) (k47_gfacirc1 X0 X1 X2) X3 np_2) X0 = X4) \wedge ((k1_funct_1 (k5_facirc_1 \\ (k46_gfacirc1 X0 X1 X2) (k47_gfacirc1 X0 X1 X2) X3 np_2) X1 = X5) \wedge \\ (k1_funct_1 (k5_facirc_1 (k46_gfacirc1 X0 X1 X2) (k47_gfacirc1 \\ X0 X1 X2) X3 np_2) X2 = X6)))))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k6_margrel1) \Rightarrow (k9_margrel1 X0 = k3_xboolean X0) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k6_margrel1) \wedge (m1_subset_1 X1 k6_margrel1)) \Rightarrow (k2_binarith X0 X1 = k10_xboolean X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k6_margrel1) \Rightarrow (k9_margrel1 (k9_margrel1 X0) = X0) \quad (5)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k6_margrel1) \wedge (m1_subset_1 X1 k6_margrel1)) \Rightarrow (m1_subset_1 (k2_binarith X0 X1) k6_margrel1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k6_margrel1) \wedge (m1_subset_1 X1 k6_margrel1)) \Rightarrow (k2_binarith X0 X1 = k2_binarith X1 X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xboolean X0) \wedge (v1_xboolean X1)) \Rightarrow (k10_xboolean X0 X1 = k10_xboolean X1 X0) \quad (9)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k6_margrel1) \Rightarrow (v1_xboolean X0) \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(X2 \neq k4_tarski (k10_finseq_1 \\ & X0 X1) k14_twoscomp) \Rightarrow (\forall X3.(m1_subset_1 X3 (k4_card_3 (\\ & u3_msualg_1 (k46_gfacirc1 X0 X1 X2) (k47_gfacirc1 X0 X1 X2)))) \Rightarrow \\ & (\forall X4.(m1_subset_1 X4 k6_margrel1) \Rightarrow (\forall X5.(m1_subset_1 \\ & X5 k6_margrel1) \Rightarrow (\forall X6.(m1_subset_1 X6 k6_margrel1) \Rightarrow ((\\ & (X4 = k1_funct_1 X3 X0) \wedge ((X5 = k1_funct_1 X3 X1) \wedge (X6 = k1_funct_1 \\ & X3 X2))) \Rightarrow (k1_twoscomp (k46_gfacirc1 X0 X1 X2) (k47_gfacirc1 X0 \\ & X1 X2) (k5_facirc_1 (k46_gfacirc1 X0 X1 X2) (k47_gfacirc1 X0 X1 X2) \\ & X3 np_2) (k48_gfacirc1 X0 X1 X2) = k9_margrel1 (k2_binarith (k2_binarith \\ & (k9_margrel1 X4) (k9_margrel1 X5)) (k9_margrel1 X6)))))))))) \end{aligned}$$