

t15_binari_4

(TMML1gf5U4sj9AzA2Nq2urnf68nZXb9wDhU)

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Let $v3_card_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_margrel1 : \iota$ be given. Let $k12_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_margrel1 : \iota$ be given. Let $k3_binari_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19_binop_2 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k9_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k3_power : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_binarith : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $np_2 : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_0 : \iota$ be given. Let $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $k5_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k2_xboolean : \iota$ be given. Let $k7_margrel1 : \iota$ be given. Let $k1_xboolean : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k5_series_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $k21_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $v1_xboolean : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \Rightarrow ((X1 = k9_finseq_1 X0) \Leftrightarrow ((k3_finseq_1 X1 = np_1) \wedge (k1_funct_1 X1 np_1 = X0))) \quad (2)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (k3_power X0 np_1 = X0) \quad (3)$$

Assume the following.

$$\forall X0.((v3_card_1 X0 \ np_1) \wedge (m2_finseq_1 X0 \ k6_margrel1)) \Rightarrow ((X0 = k12_finseq_1 \ k6_margrel1 \ k8_margrel1) \Rightarrow (k6_binarith \ np_1 \ X0 = \ np_1)) \quad (4)$$

Assume the following.

$$\forall X0.(v7_ordinal1 \ X0) \Rightarrow (\forall X1.\forall X2.(m2_finseq_1 \ X2 \ X1) \Rightarrow (((r1_xxreal_0 \ np_1 \ X0) \wedge (r1_xxreal_0 \ X0 \ (k3_finseq_1 \ X2))) \Rightarrow (k7_partfun1 \ X1 \ X2 \ X0 = k1_funct_1 \ X2 \ X0))) \quad (5)$$

Assume the following.

$$((v2_xxreal_0 \ np_2) \wedge (m2_subset_1 \ np_2 \ k1_numbers \ k5_numbers)) \wedge ((m1_subset_1 \ np_2 \ k5_numbers) \wedge (m1_subset_1 \ np_2 \ k1_numbers)) \quad (6)$$

Assume the following.

$$v1_xboole_0 \ np_0 \quad (7)$$

Assume the following.

$$k6_xcmplx_0 \ np_1 \ np_2 = k4_xcmplx_0 \ np_1 \quad (8)$$

Assume the following.

$$r1_xxreal_0 \ np_1 \ np_1 \quad (9)$$

Assume the following.

$$\forall X0.k9_finseq_1 \ X0 = k5_finseq_1 \ X0 \quad (10)$$

Assume the following.

$$k8_margrel1 = k2_xboolean \quad (11)$$

Assume the following.

$$k7_margrel1 = k1_xboolean \quad (12)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 \ X0) \wedge (v7_ordinal1 \ X1)) \Rightarrow (k5_series_1 \ X0 \ X1 = k3_power \ X0 \ X1) \quad (14)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (15)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (k3_finseq_1 X0 = k1_card_1 X0) \quad (16)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_int_1 X0) \wedge (v1_int_1 X1)) \Rightarrow (k21_binop_2 X0 X1 = k6_xcmplx_0 X0 X1) \quad (17)$$

Assume the following.

$$\forall X0. (v1_int_1 X0) \Rightarrow (k19_binop_2 X0 = k4_xcmplx_0 X0) \quad (18)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 X0)) \Rightarrow (k12_finseq_1 X0 X1 = k5_finseq_1 X1) \quad (19)$$

Assume the following.

$$\forall X0. v1_finseq_1 (k5_finseq_1 X0) \quad (20)$$

Assume the following.

$$v6_membered k4_ordinal1 \quad (21)$$

Assume the following.

$$v1_xboolean k2_xboolean \quad (22)$$

Assume the following.

$$\neg v1_xboole_0 k6_margrel1 \quad (23)$$

Assume the following.

$$\forall X0. (v1_relat_1 (k9_finseq_1 X0)) \wedge (v1_funct_1 (k9_finseq_1 X0)) \quad (24)$$

Assume the following.

$$m1_subset_1 k8_margrel1 k6_margrel1 \quad (25)$$

Assume the following.

$$\forall X0. \forall X1. (v3_card_1 X1 X0) \Leftrightarrow (k1_card_1 X1 = X0) \quad (26)$$

Assume the following.

$$\begin{aligned} \forall X0. (v7_ordinal1 X0) \Rightarrow (\forall X1. ((v3_card_1 X1 X0) \wedge (\\ m2_finseq_1 X1 k6_margrel1)) \Rightarrow (((k7_partfun1 k6_margrel1 X1 X0 = \\ k7_margrel1) \Rightarrow (k3_binari_2 X0 X1 = k6_binarith X0 X1)) \wedge ((k7_partfun1 \\ k6_margrel1 X1 X0 \neq k7_margrel1) \Rightarrow (k3_binari_2 X0 X1 = k21_binop_2 \\ (k6_binarith X0 X1) (k5_series_1 np_2 X0)))))) \quad (27) \end{aligned}$$

Assume the following.

$$k2_xboolean = np_1 \quad (28)$$

Assume the following.

$$k1_xboolean = k6_numbers \quad (29)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_int_1 X0) \quad (30)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (31)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (v7_ordinal1 X0) \quad (32)$$

Assume the following.

$$\forall X0.(v6_membered X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow (v7_ordinal1 X1)) \quad (33)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v3_card_1 X0 np_1) \wedge (m2_finseq_1 X0 k6_margrel1)) \Rightarrow \\ & ((X0 = k12_finseq_1 k6_margrel1 k8_margrel1) \Rightarrow (k3_binari_2 np_1 \\ & \quad X0 = k19_binop_2 np_1)) \end{aligned}$$