

t11_radix_5
(TMakn86nTPvviRHfFh5ma62qxNN6BiVNtes)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_2 : \iota$ be given. Let $k12_radix_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_radix_1 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k17_complex1 : \iota \Rightarrow \iota$ be given. Let $v3_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k7_nat_d : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xreal_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k11_radix_1 : \iota \Rightarrow \iota$ 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 $np_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $v5_membered : \iota \Rightarrow o$ be given. Let $k4_numbers : \iota$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $c1_axioms : \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Let $v2_membered : \iota \Rightarrow o$ be given. Let $v4_membered : \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\neg(r1_xxreal_0 X0 X1) \wedge ((\neg v2_xxreal_0 X1) \wedge (v2_xxreal_0 X0)))) \quad (2)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \Rightarrow (r1_xxreal_0 k6_numbers (k6_xcmplx_0 X1 X0)))) \quad (3)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow ((r1_xxreal_0 k6_numbers X0) \Rightarrow (k17_complex1 X0 = X0)) \quad (4)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\neg(r1_xxreal_0 X0 X1) \wedge ((\neg v3_xxreal_0 X0) \wedge (v3_xxreal_0 X1)))) \quad (5)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_xcmplx_0 np_1 X0 = X0) \quad (6)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (r1_xxreal_0 (k7_nat_d X0 X1) X0)) \quad (7)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 X1 X0) \Rightarrow (k2_xcmplx_0 (k1_xreal_0 X0 X1) X1 = X0))) \quad (8)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \Rightarrow (k1_xreal_0 X1 X0 = k6_xcmplx_0 X1 X0))) \quad (9)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (k1_xreal_0 X0 X0 = k6_numbers) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (11)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow ((\neg r1_xxreal_0 (k2_xcmplx_0 X0 X1) X0) \Leftrightarrow (r1_xxreal_0 np_1 X1))) \quad (12)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow ((r1_xxreal_0 np_2 X0) \Rightarrow (k11_radix_1 (k1_radix_1 X0) = np_1)) \quad (13)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\neg (r1_xxreal_0 X0 X1) \wedge (\forall X2.(v7_ordinal1 X2) \Rightarrow (X1 \neq k2_xcmplx_0 X0 X2)))) \quad (14)$$

Assume the following.

$$((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \quad (15)$$

Assume the following.

$$v1_xboole_0 \text{ np_}0 \quad (16)$$

Assume the following.

$$\forall X0. \forall X1. ((v7_ordinal1 \ X0) \wedge (v7_ordinal1 \ X1)) \Rightarrow (k7_nat_d \ X0 \ X1 = k1_xreal_0 \ X0 \ X1) \quad (17)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (18)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (19)$$

Assume the following.

$$\exists X0. (v1_xboole_0 \ X0) \wedge (v1_xxreal_0 \ X0) \quad (20)$$

Assume the following.

$$\exists X0. (v1_xboole_0 \ X0) \wedge ((v1_xcmplx_0 \ X0) \wedge ((v1_xxreal_0 \ X0) \wedge (v1_xreal_0 \ X0))) \quad (21)$$

Assume the following.

$$\forall X0. (v1_xreal_0 \ X0) \Rightarrow ((r1_xxreal_0 \ (k1_real_1 \ (k17_complex1 \ X0)) \ X0) \wedge (r1_xxreal_0 \ X0 \ (k17_complex1 \ X0))) \quad (22)$$

Assume the following.

$$\forall X0. (v7_ordinal1 \ X0) \Rightarrow ((r1_xxreal_0 \ \text{np_}1 \ X0) \Rightarrow (r1_xxreal_0 \ \text{np_}2 \ (k1_radix_1 \ X0))) \quad (23)$$

Assume the following.

$$v6_membered \ k4_ordinal1 \quad (24)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xreal_0 \ X0) \wedge (v1_xreal_0 \ X1)) \Rightarrow (v1_xreal_0 \ (k2_xcmplx_0 \ X0 \ X1)) \quad (25)$$

Assume the following.

$$v5_membered \ k4_numbers \quad (26)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xreal_0 \ X0) \wedge (v1_xreal_0 \ X1)) \Rightarrow ((\neg \ v3_xxreal_0 \ (k1_xreal_0 \ X0 \ X1)) \wedge (v1_xreal_0 \ (k1_xreal_0 \ X0 \ X1))) \quad (27)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0)\wedge(v7_ordinal1\ X1))\Rightarrow(v7_ordinal1\ (k2_xcmplx_0\ X0\ X1)) \quad (28)$$

Assume the following.

$$\forall X0.\forall X1.((v1_int_1\ X0)\wedge(v1_int_1\ X1))\Rightarrow(v1_int_1\ (k2_xcmplx_0\ X0\ X1)) \quad (29)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(m1_subset_1\ (k1_radix_1\ X0)\ k5_numbers) \quad (30)$$

Assume the following.

$$c1_axioms = k6_numbers \quad (31)$$

Assume the following.

$$\forall X0.(v1_xreal_0\ X0)\Rightarrow((v3_xreal_0\ X0)\Leftrightarrow(\neg r1_xreal_0\ k6_numbers\ X0)) \quad (32)$$

Assume the following.

$$\forall X0.(v1_xreal_0\ X0)\Rightarrow(\forall X1.(v1_xreal_0\ X1)\Rightarrow(((r1_xreal_0\ k6_numbers\ (k6_xcmplx_0\ X0\ X1))\Rightarrow(k1_xreal_0\ X0\ X1 = k6_xcmplx_0\ X0\ X1))\wedge((\neg r1_xreal_0\ k6_numbers\ (k6_xcmplx_0\ X0\ X1))\Rightarrow(k1_xreal_0\ X0\ X1 = k6_numbers)))))) \quad (33)$$

Assume the following.

$$\forall X0.(v1_int_1\ X0)\Leftrightarrow(X0 \in k4_numbers) \quad (34)$$

Assume the following.

$$\forall X0.(v1_int_1\ X0)\Rightarrow(\forall X1.(v7_ordinal1\ X1)\Rightarrow(k12_radix_1\ X0\ X1 = k6_xcmplx_0\ X0\ (k3_xcmplx_0\ (k11_radix_1\ X0)\ (k1_radix_1\ X1)))) \quad (35)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k4_ordinal1)\Rightarrow(v7_ordinal1\ X0) \quad (36)$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0)\Rightarrow(v7_ordinal1\ X0) \quad (37)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(v1_membered\ X0) \quad (38)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(v2_membered\ X0) \quad (39)$$

Assume the following.

$$\forall X0.((v1_xxreal_0\ X0)\wedge(v2_xxreal_0\ X0))\Rightarrow((\neg v1_xboole_0\ X0)\wedge((v1_xxreal_0\ X0)\wedge(\neg v3_xxreal_0\ X0))) \quad (40)$$

Assume the following.

$$\forall X0.(v4_membered\ X0)\Rightarrow(v3_membered\ X0) \quad (41)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(v1_xreal_0\ X0) \quad (42)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k5_numbers)\Rightarrow(\neg v3_xxreal_0\ X0) \quad (43)$$

Assume the following.

$$\forall X0.(v5_membered\ X0)\Rightarrow(v4_membered\ X0) \quad (44)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(v1_int_1\ X0) \quad (45)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k1_numbers)\Rightarrow(v1_xreal_0\ X0) \quad (46)$$

Assume the following.

$$\forall X0.(v6_membered\ X0)\Rightarrow(v5_membered\ X0) \quad (47)$$

Assume the following.

$$\forall X0.(v5_membered\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow(v1_int_1\ X1)) \quad (48)$$

Assume the following.

$$\forall X0.(v2_membered\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow(v1_xxreal_0\ X1)) \quad (49)$$

Assume the following.

$$\forall X0.(v1_membered\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow(v1_xcmplx_0\ X1)) \quad (50)$$

Theorem 1

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow((r1_xxreal_0\ np_2\ X0)\Rightarrow(k12_radix_1\ (k1_radix_1\ X0)\ X0 = k6_numbers))$$