

t16_nat_4
(TMQVHTbz5PtCjEsB6E16x1C27zZr6qxeBfo)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_int_2 : \iota \Rightarrow o$ 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 $k6_numbers : \iota$ be given. Let $k1_newton : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_nat_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $r1_nat_d : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $v3_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k23_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_nat_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_int_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow ((r1_nat_d X1 X0) \Rightarrow ((r1_xxreal_0 X0 k6_numbers) \vee (r1_xxreal_0 X1 X0)))) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \Rightarrow ((v1_xboole_0 X0) \vee ((v2_xxreal_0 X1) \vee (v3_xxreal_0 X0))))) \quad (2)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (3)$$

Assume the following.

$$m1_subset_1 k1_xboole_0 k4_ordinal1 \quad (4)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k2_xcmplx_0 X0 k6_numbers = X0) \quad (5)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow ((r1_xxreal_0 np_1 X0) \Rightarrow (r1_xxreal_0 np_1 (k1_newton X0 X1)))) \quad (6)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \text{ } np_1) \wedge (m2_subset_1 \text{ } np_1 \text{ } k1_numbers \text{ } k5_numbers)) \wedge \\ & ((m1_subset_1 \text{ } np_1 \text{ } k5_numbers) \wedge (m1_subset_1 \text{ } np_1 \text{ } k1_numbers)) \end{aligned} \quad (7)$$

Assume the following.

$$r1_xxreal_0 \text{ } np_1 \text{ } np_1 \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 \text{ } X0) \wedge ((\neg v1_xboole_0 \text{ } X1) \wedge \\ & (m1_subset_1 \text{ } X1 \text{ } (k1_zfmisc_1 \text{ } X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 \text{ } X0 \text{ } X1) \Leftrightarrow (m1_subset_1 \text{ } X2 \text{ } X1)) \end{aligned} \quad (9)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (10)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7_ordinal1 \text{ } X0) \wedge (v7_ordinal1 \text{ } X1)) \Rightarrow (\\ & k23_binop_2 \text{ } X0 \text{ } X1 = k2_xcmplx_0 \text{ } X0 \text{ } X1) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7_ordinal1 \text{ } X0) \wedge (v7_ordinal1 \text{ } X1)) \Rightarrow (\\ & k11_nat_3 \text{ } X0 \text{ } X1 = k10_nat_3 \text{ } X0 \text{ } X1) \end{aligned} \quad (13)$$

Assume the following.

$$(\neg v1_xboole_0 \text{ } k4_ordinal1) \wedge (v3_ordinal1 \text{ } k4_ordinal1) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7_ordinal1 \text{ } X0) \wedge (v7_ordinal1 \text{ } X1)) \Rightarrow (\\ & v7_ordinal1 \text{ } (k1_newton \text{ } X0 \text{ } X1)) \end{aligned} \quad (15)$$

Assume the following.

$$v1_xboole_0 \text{ } k1_xboole_0 \quad (16)$$

Assume the following.

$$\neg v1_xboole_0 \text{ } k1_numbers \quad (17)$$

Assume the following.

$$m1_subset_1 \text{ } k5_numbers \text{ } (k1_zfmisc_1 \text{ } k1_numbers) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0)\wedge(v7_ordinal1\ X1))\Rightarrow(m2_subset_1\ (k23_binop_2\ X0\ X1)\ k1_numbers\ k5_numbers) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0)\wedge(v7_ordinal1\ X1))\Rightarrow(v7_ordinal1\ (k10_nat_3\ X0\ X1)) \quad (20)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0)\Rightarrow(\forall X1.(v7_ordinal1\ X1)\Rightarrow(\neg \\ (X1\neq np_1)\wedge((X0\neq k6_numbers)\wedge(\neg\forall X2.(v7_ordinal1\ X2)\Rightarrow \\ ((X2 = k10_nat_3\ X0\ X1)\Leftrightarrow((r1_nat_d\ (k1_newton\ X1\ X2)\ X0)\wedge(\neg r1_nat_d \\ (k1_newton\ X1\ (k23_binop_2\ X2\ np_1))\ X0)))))) \end{aligned} \quad (21)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow((v1_int_2\ X0)\Leftrightarrow((\neg r1_xxreal_0\ X0 \\ np_1)\wedge(\forall X1.(v7_ordinal1\ X1)\Rightarrow(\neg(r1_int_1\ X1\ X0)\wedge((X1\neq \\ np_1)\wedge(X1\neq X0)))))) \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0\ X0)\wedge(v1_xxreal_0\ X1))\Rightarrow(\\ (r1_xxreal_0\ X0\ X1)\vee(r1_xxreal_0\ X1\ X0)) \quad (23)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k4_ordinal1)\Rightarrow(v7_ordinal1\ X0) \quad (24)$$

Assume the following.

$$\forall X0.((v1_xxreal_0\ X0)\wedge(v2_xxreal_0\ X0))\Rightarrow((\neg v1_xboole_0 \\ X0)\wedge((v1_xxreal_0\ X0)\wedge(\neg v3_xxreal_0\ X0))) \quad (25)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow((v7_ordinal1\ X0)\wedge(\neg v3_xxreal_0\ X0)) \quad (26)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(v1_xxreal_0\ X0) \quad (27)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(v1_xxreal_0\ X0) \quad (28)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(v1_xcmplx_0\ X0) \quad (29)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v7_ordinal1\ X0)\wedge(v1_int_2\ X0))\Rightarrow(\forall X1.(m2_subset_1 \\ & X1\ k1_numbers\ k5_numbers)\Rightarrow(\forall X2.\neg(X1\neq k6_numbers)\wedge((X2 = \\ & k1_newton\ X0\ (k11_nat_3\ X1\ X0))\wedge(\forall X3.(m2_subset_1\ X3\ k1_numbers \\ & k5_numbers)\Rightarrow(\neg(X3 = X2)\wedge((r1_xxreal_0\ np_1\ X3)\wedge(r1_xxreal_0 \\ & X3\ X1)))))) \end{aligned}$$