

t22_nat_4

(TMUvH4xWWpYZprWFjtffvGiWCv1ACugRa6V)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_int_2 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $k1_newton : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k6_numbers : \iota$ be given. Let $r1_nat_d : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k3_power : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ 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. Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((v7_ordinal1\ X1) \wedge (\\ v1_int_2\ X1)) \Rightarrow (\forall X2.((v7_ordinal1\ X2) \wedge (v1_int_2\ X2)) \Rightarrow \\ ((r1_nat_d\ X2\ (k1_newton\ X1\ X0)) \Rightarrow (X2 = X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ X2))) \Rightarrow (m1_subset_1\ X0\ X2) \quad (2)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0\ X0) \Rightarrow (k1_newton\ X0\ k6_numbers = np_1) \quad (3)$$

Assume the following.

$$\forall X0.(v1_xreal_0\ X0) \Rightarrow (\forall X1.(v7_ordinal1\ X1) \Rightarrow (k3_power\ X0\ X1 = k1_newton\ X0\ X1)) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0\ X0) \Rightarrow (\forall X1.(v1_xreal_0\ X1) \Rightarrow (\neg(\neg \\ r1_xxreal_0\ X0\ np_1) \wedge ((\neg r1_xxreal_0\ X1\ k6_numbers) \wedge (r1_xxreal_0 \\ (k3_power\ X0\ X1)\ np_1)))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1)\Rightarrow((v1_xboole_0 X1)\vee (X0 \in X1)) \quad (6)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(\forall X1.(v7_ordinal1 X1)\Rightarrow((X0 \neq np_1)\Rightarrow(((X1 \neq k6_numbers)\wedge(k11_nat_3 X1 X0 = k6_numbers))\Leftrightarrow (\neg r1_nat_d X0 X1)))) \quad (7)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(\forall X1.(v7_ordinal1 X1)\Rightarrow((\neg r1_xxreal_0 X0 np_1)\Rightarrow(k11_nat_3 (k1_newton X0 X1) X0 = X1))) \quad (8)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge (m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \quad (10)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0)\wedge(v7_ordinal1 X1))\Rightarrow(k11_nat_3 X0 X1 = k10_nat_3 X0 X1) \quad (12)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0)\wedge(v7_ordinal1 X1))\Rightarrow(v7_ordinal1 (k1_newton X0 X1)) \quad (14)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (15)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0)\wedge(v7_ordinal1\ X1))\Rightarrow(m2_subset_1\ (k11_nat_3\ X0\ X1)\ k1_numbers\ k5_numbers) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0)\wedge(v7_ordinal1\ X1))\Rightarrow(v7_ordinal1\ (k10_nat_3\ X0\ X1)) \quad (18)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow((v1_int_2\ X0)\Leftrightarrow((\neg r1_xreal_0\ X0\ np_1)\wedge(\forall X1.(v7_ordinal1\ X1)\Rightarrow(\neg(r1_int_1\ X1\ X0)\wedge((X1\neq np_1)\wedge(X1\neq X0)))))) \quad (19)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k4_ordinal1)\Rightarrow(v7_ordinal1\ X0) \quad (20)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(v1_xreal_0\ X0) \quad (21)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k1_numbers)\Rightarrow(v1_xcmplx_0\ X0) \quad (22)$$

Theorem 1

$$\forall X0.((v7_ordinal1\ X0)\wedge(v1_int_2\ X0))\Rightarrow(\forall X1.((v7_ordinal1\ X1)\wedge(v1_int_2\ X1))\Rightarrow(\forall X2.((\neg v1_xboole_0\ X2)\wedge(m2_subset_1\ X2\ k1_numbers\ k5_numbers))\Rightarrow((k1_newton\ X0\ (k11_nat_3\ X2\ X0) = k1_newton\ X1\ (k11_nat_3\ X2\ X1))\Rightarrow((r1_xreal_0\ (k11_nat_3\ X2\ X0)\ k6_numbers)\vee (X0 = X1))))))$$