

t14_int_7

(TMdzE7wECGRuQNPYJZpvdxMKEZyKQf1XSbG)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_newton : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_valued_0 : \iota \Rightarrow o$ be given. Let $v2_pre_poly : \iota \Rightarrow o$ be given. Let $v1_int_7 : \iota \Rightarrow o$ be given. Let $k8_nat_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k1_polynom2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k21_rvsum_1 : \iota \Rightarrow \iota$ be given. Let $k6_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_nat_d : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_int_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_nat_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k19_rvsum_1 : \iota \Rightarrow \iota$ be given. Let $k2_numbers : \iota$ be given. Let $k20_rvsum_1 : \iota \Rightarrow \iota$ be given. Let $k13_pre_poly : \iota \Rightarrow \iota$ be given. Let $v1_int_2 : \iota \Rightarrow o$ be given. Let $k1_newton : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k1_uproots : \iota \Rightarrow \iota$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Assume the following.

$$k21_rvsum_1 (k6_finseq_1 k1_numbers) = np_1 \quad (1)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (4)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow((r1_nat_d\ X0\ np_1)\Rightarrow(X0 = np_1)) \quad (5)$$

Assume the following.

$$\begin{aligned} &((v2_xxreal_0\ np_1)\wedge(m2_subset_1\ np_1\ k1_numbers\ k5_numbers))\wedge \\ &((m1_subset_1\ np_1\ k5_numbers)\wedge(m1_subset_1\ np_1\ k1_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$r1_xxreal_0\ np_1\ np_1 \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0)\wedge(v7_ordinal1\ X1))\Rightarrow((r1_nat_d\ X0\ X1)\Leftrightarrow(r1_int_1\ X0\ X1)) \quad (8)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1\ X1\ X0)\Leftrightarrow(m1_finseq_1\ X1\ X0) \quad (10)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.((v1_relat_1\ X1)\wedge((v4_relat_1\ X1\ X0)\wedge \\ &(v1_funct_1\ X1)\wedge((v1_partfun1\ X1\ X0)\wedge((v4_valued_0\ X1)\wedge(v2_pre_poly \\ &X1))))))\Rightarrow(k8_nat_3\ X0\ X1 = k7_nat_3\ X0\ X1) \end{aligned} \quad (11)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (12)$$

Assume the following.

$$\forall X0.(m1_finseq_1\ X0\ k1_numbers)\Rightarrow(k21_rvsum_1\ X0 = k19_rvsum_1\ X0) \quad (13)$$

Assume the following.

$$\forall X0.(m1_finseq_1\ X0\ k2_numbers)\Rightarrow(k20_rvsum_1\ X0 = k19_rvsum_1\ X0) \quad (14)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.((v1_relat_1\ X1)\wedge((v4_relat_1\ X1\ X0)\wedge \\ &(v1_funct_1\ X1)\wedge((v1_partfun1\ X1\ X0)\wedge((v4_valued_0\ X1)\wedge(v2_pre_poly \\ &X1))))))\Rightarrow(k1_polynom2\ X0\ X1 = k13_pre_poly\ X1) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.((v7_ordinal1\ X0)\wedge(v1_int_2\ X0))\Rightarrow(\forall X1.((v1_relat_1 \\ X1)\wedge((v4_relat_1\ X1\ k10_newton)\wedge((v1_funct_1\ X1)\wedge((v1_partfun1 \\ X1\ k10_newton)\wedge((v4_valued_0\ X1)\wedge(v2_pre_poly\ X1))))))\Rightarrow(((\\ v1_int_7\ X1)\wedge(X0\in k1_polynom2\ k10_newton\ X1))\Rightarrow((r1_int_1\ X0\ (\\ k8_nat_3\ k10_newton\ X1))\wedge(\exists X2.(v7_ordinal1\ X2)\wedge(r1_int_1 \\ (k1_newton\ X0\ X2)\ (k8_nat_3\ k10_newton\ X1)))))) \end{aligned} \quad (16)$$

Assume the following.

$$v1_xboole_0\ k1_xboole_0 \quad (17)$$

Assume the following.

$$(\neg v1_xboole_0\ k10_newton)\wedge(\neg v1_finset_1\ k10_newton) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xboole_0\ X0)\wedge(v1_relat_1\ X1))\Rightarrow((\\ v1_xboole_0\ (k3_relat_1\ X0\ X1))\wedge(v1_relat_1\ (k3_relat_1\ X0\ X1))) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0\ X0)\wedge((\neg v1_xboole_0\ X1)\wedge \\ (m1_subset_1\ X1\ (k1_zfmisc_1\ X0))))\Rightarrow(\exists X2.m2_subset_1 \\ X2\ X0\ X1) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0\ X0)\wedge((\neg v1_xboole_0\ X1)\wedge \\ (m1_subset_1\ X1\ (k1_zfmisc_1\ X0))))\Rightarrow(\forall X2.(m2_subset_1 \\ X2\ X0\ X1)\Rightarrow(m1_subset_1\ X2\ X0)) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1\ X1\ X0)\Rightarrow((v1_funct_1\ X1)\wedge(\\ (v1_finseq_1\ X1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers \\ X0)))))) \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1\ X1)\wedge((v4_relat_1\ X1\ X0)\wedge(\\ (v1_funct_1\ X1)\wedge((v1_partfun1\ X1\ X0)\wedge((v1_valued_0\ X1)\wedge(v2_pre_poly \\ X1))))))\Rightarrow(v1_xcmplx_0\ (k7_nat_3\ X0\ X1)) \quad (23)$$

Assume the following.

$$\forall X0.m2_finseq_1\ (k6_finseq_1\ X0)\ X0 \quad (24)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0) \Rightarrow (m2_finseq_1 (k1_uproots X0) X0) \quad (25)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge \\ (v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge ((v4_valued_0 X1) \wedge (v2_pre_poly \\ X1)))))) \Rightarrow ((v1_finset_1 (k1_polynom2 X0 X1)) \wedge (m1_subset_1 (k1_polynom2 \\ X0 X1) (k1_zfmisc_1 X0))) \end{aligned} \quad (26)$$

Assume the following.

$$m1_subset_1 k10_newton (k1_zfmisc_1 k5_numbers) \quad (27)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 k5_numbers)) \Rightarrow ((X0 = k10_newton) \Leftrightarrow \\ (\forall X1.(v7_ordinal1 X1) \Rightarrow ((X1 \in X0) \Leftrightarrow (v1_int_2 X1)))) \end{aligned} \quad (28)$$

Assume the following.

$$\forall X0.k6_finseq_1 X0 = k1_xboole_0 \quad (29)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge \\ (v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge ((v1_valued_0 X1) \wedge (v2_pre_poly \\ X1)))))) \Rightarrow (\forall X2.(v1_xcmplx_0 X2) \Rightarrow ((X2 = k7_nat_3 X0 X1) \Leftrightarrow \\ (\exists X3.(m2_finseq_1 X3 k2_numbers) \wedge ((X2 = k20_rvsum_1 X3) \wedge \\ (X3 = k3_relat_1 (k1_uproots (k13_pre_poly X1)) X1)))))) \end{aligned} \quad (30)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1 X0) \Rightarrow ((v1_int_2 X0) \Leftrightarrow ((-r1_xreal_0 X0 \\ np_1) \wedge (\forall X1.(v7_ordinal1 X1) \Rightarrow ((-r1_int_1 X1 X0) \wedge ((X1 \neq \\ np_1) \wedge (X1 \neq X0)))))) \end{aligned} \quad (31)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v4_valued_0 X0)) \Rightarrow ((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \quad (32)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (33)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \Rightarrow ((v1_relat_1 X0) \wedge (v1_valued_0 X0)) \quad (34)$$

Assume the following.

$$\forall X0.\forall X1.(v1_xboole_0 X0)\Rightarrow(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 X0))\Rightarrow(v1_xboole_0 X2)) \quad (35)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)\Rightarrow(v1_xboole_0 X1)) \quad (36)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(v1_finset_1 X0) \quad (37)$$

Theorem 1

$$\forall X0.(((v1_relat_1 X0)\wedge((v4_relat_1 X0 k10_newton)\wedge((v1_funct_1 X0)\wedge((v1_partfun1 X0 k10_newton)\wedge((v4_valued_0 X0)\wedge(v2_pre_poly X0))))))\Rightarrow((v1_int_7 X0)\Rightarrow((k8_nat_3 k10_newton X0 = np_1)\Leftrightarrow(k1_polynom2 k10_newton X0 = k1_xboole_0))))$$