

t20_nat_3 (TM-
MEeTYk3tFC6zx89F345T4QPFkdE7AeN9g)

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Let $k8_nat_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_pre_poly : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ 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 $k1_xboole_0 : \iota$ be given. Let $k1_polynom2 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k7_nat_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ 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 $k15_pre_poly : \iota \Rightarrow \iota$ be given. Let $k14_pre_poly : \iota \Rightarrow \iota$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $k1_uproots : \iota \Rightarrow \iota$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k8_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_funct_1 : \iota \Rightarrow o$ 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.

$$\forall X0.k1_polynom2 X0 (k16_pre_poly X0) = k1_xboole_0 \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge((v4_relat_1 X1 X0)\wedge((v1_funct_1 X1)\wedge((v1_partfun1 X1 X0)\wedge((v4_valued_0 X1)\wedge(v2_pre_poly X1))))))\Rightarrow(k8_nat_3 X0 X1 = k7_nat_3 X0 X1) \quad (5)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (6)$$

Assume the following.

$$\forall X0.(m1_finseq_1 X0 k1_numbers)\Rightarrow(k21_rvsum_1 X0 = k19_rvsum_1 X0) \quad (7)$$

Assume the following.

$$\forall X0.(m1_finseq_1 X0 k2_numbers)\Rightarrow(k20_rvsum_1 X0 = k19_rvsum_1 X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge((v4_relat_1 X1 X0)\wedge((v1_funct_1 X1)\wedge((v1_partfun1 X1 X0)\wedge((v4_valued_0 X1)\wedge(v2_pre_poly X1))))))\Rightarrow(k1_polynom2 X0 X1 = k13_pre_poly X1) \quad (9)$$

Assume the following.

$$\forall X0.k15_pre_poly X0 = k14_pre_poly X0 \quad (10)$$

Assume the following.

$$\forall X0.\neg v1_xboole_0 (k14_pre_poly X0) \quad (11)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xboole_0 X0)\wedge(v1_relat_1 X1))\Rightarrow((v1_xboole_0 (k3_relat_1 X0 X1))\wedge(v1_relat_1 (k3_relat_1 X0 X1))) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Rightarrow(m1_subset_1 X2 X0)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Rightarrow((v1_funct_1 X1)\wedge((v1_finseq_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))))) \quad (15)$$

Assume the following.

$$\forall X0.m2_finseq_1 (k6_finseq_1 X0) X0 \quad (16)$$

Assume the following.

$$\forall X0.(m1_finseq_1 X0 k2_numbers) \Rightarrow (m1_subset_1 (k20_rvsum_1 X0) k2_numbers) \quad (17)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0) \Rightarrow (m2_finseq_1 (k1_uproots X0) X0) \quad (18)$$

Assume the following.

$$\forall X0.m2_subset_1 (k16_pre_poly X0) (k14_pre_poly X0) (k15_pre_poly X0) \quad (19)$$

Assume the following.

$$\forall X0.m1_subset_1 (k15_pre_poly X0) (k1_zfmisc_1 (k14_pre_poly X0)) \quad (20)$$

Assume the following.

$$\forall X0.k6_finseq_1 X0 = k1_xboole_0 \quad (21)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge (\\ & (v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge ((v1_valued_0 X1) \wedge (v2_pre_poly \\ & X1)))))) \Rightarrow (\forall X2.(v1_xcmplx_0 X2) \Rightarrow ((X2 = k7_nat_3 X0 X1) \Leftrightarrow \\ & (\exists X3.(m2_finseq_1 X3 k2_numbers) \wedge ((X2 = k20_rvsum_1 X3) \wedge \\ & (X3 = k3_relat_1 (k1_uproots (k13_pre_poly X1)) X1)))))) \end{aligned} \quad (22)$$

Assume the following.

$$\forall X0.k16_pre_poly X0 = k8_funcop_1 k5_numbers X0 k6_numbers \quad (23)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k15_pre_poly X0))) \Rightarrow (v4_funct_1 X1) \quad (24)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v4_valued_0 X0)) \Rightarrow ((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \quad (25)$$

Assume the following.

$$\forall X0.(v4_funct_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow ((v1_relat_1 X1) \wedge (v1_funct_1 X1))) \quad (26)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \Rightarrow ((v1_relat_1 X0) \wedge (v1_valued_0 X0)) \quad (27)$$

Assume the following.

$$\forall X0. \forall X1. (v1_xboole_0 X0) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 X0))) \Rightarrow (v1_xboole_0 X2)) \quad (28)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k2_numbers) \Rightarrow (v1_xcmplx_0 X0) \quad (29)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (v1_finset_1 X0) \quad (30)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k15_pre_poly X0)))) \Rightarrow (\forall X2. (m1_subset_1 X2 X1) \Rightarrow ((v1_partfun1 X2 X0) \wedge ((v4_valued_0 X2) \wedge (v2_pre_poly X2)))) \quad (31)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k15_pre_poly X0))) \Rightarrow (\forall X2. (m1_subset_1 X2 X1) \Rightarrow (v4_relat_1 X2 X0)) \quad (32)$$

Theorem 1 $\forall X0. k8_nat_3 X0 (k16_pre_poly X0) = np_1.$