

t55_nat_3

(TMQ1PPHyYJsn73zbgsX6zMLNFqZmbavdEsm)

October 27, 2020

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 $k11_nat.3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_seq.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_nat.3 : \iota \Rightarrow \iota$ be given. Let $v1_relat.1 : \iota \Rightarrow o$ be given. Let $v1_funct.1 : \iota \Rightarrow o$ be given. Let $v3_valued.0 : \iota \Rightarrow o$ be given. Let $k1_funct.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat.1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k1_polynom2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_pre_poly : \iota \Rightarrow \iota$ be given. Let $k10_newton : \iota$ be given. Let $k12_nat.3 : \iota \Rightarrow \iota$ be given. Let $k1_newton : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. ((v1_relat.1 X0) \wedge ((v1_funct.1 X0) \wedge (v3_valued.0 X0))) \Rightarrow (k1_seq.1 X0 X1 = k1_funct.1 X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat.1 X1) \wedge ((v4_relat.1 X1 X0) \wedge ((v1_funct.1 X1) \wedge ((v1_partfun1 X1 X0) \wedge ((v4_valued.0 X1) \wedge (v2_pre_poly X1)))))) \Rightarrow (k1_polynom2 X0 X1 = k13_pre_poly X1) \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v1_xboole.0 X0) \wedge (v7_ordinal1 X0)) \Rightarrow ((v1_relat.1 (k13_nat.3 X0)) \wedge ((v4_relat.1 (k13_nat.3 X0) k10_newton) \wedge ((v1_funct.1 (k13_nat.3 X0)) \wedge ((v1_partfun1 (k13_nat.3 X0) k10_newton) \wedge ((v4_valued.0 (k13_nat.3 X0)) \wedge (v2_pre_poly (k13_nat.3 X0)))))))) \quad (3)$$

Assume the following.

$$\forall X0. ((\neg v1_xboole.0 X0) \wedge (v7_ordinal1 X0)) \Rightarrow ((v1_relat.1 (k12_nat.3 X0)) \wedge ((v4_relat.1 (k12_nat.3 X0) k10_newton) \wedge ((v1_funct.1 (k12_nat.3 X0)) \wedge ((v1_partfun1 (k12_nat.3 X0) k10_newton) \wedge (v2_pre_poly (k12_nat.3 X0)))))) \quad (4)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow ((v1_relat_1\ (k12_nat_3\ X0)) \wedge ((v4_relat_1\ (k12_nat_3\ X0)\ k10_newton) \wedge ((v1_funct_1\ (k12_nat_3\ X0)) \wedge ((v1_partfun1\ (k12_nat_3\ X0)\ k10_newton) \wedge (v4_valued_0\ (k12_nat_3\ X0)))))) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0\ X0) \wedge (v7_ordinal1\ X0)) \Rightarrow ((v1_relat_1\ (k13_nat_3\ X0)) \wedge ((v4_relat_1\ (k13_nat_3\ X0)\ k10_newton) \wedge ((v1_funct_1\ (k13_nat_3\ X0)) \wedge (v1_partfun1\ (k13_nat_3\ X0)\ k10_newton)))) \quad (6)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow ((v1_relat_1\ (k12_nat_3\ X0)) \wedge ((v4_relat_1\ (k12_nat_3\ X0)\ k10_newton) \wedge ((v1_funct_1\ (k12_nat_3\ X0)) \wedge (v1_partfun1\ (k12_nat_3\ X0)\ k10_newton)))) \quad (7)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0\ X0) \wedge (v7_ordinal1\ X0)) \Rightarrow (\forall X1.((v1_relat_1\ X1) \wedge ((v4_relat_1\ X1\ k10_newton) \wedge ((v1_funct_1\ X1) \wedge (v1_partfun1\ X1\ k10_newton)))) \Rightarrow ((X1 = k13_nat_3\ X0) \Leftrightarrow ((k13_pre_poly\ X1 = k1_polynom2\ k10_newton\ (k12_nat_3\ X0)) \wedge (\forall X2.(v7_ordinal1\ X2) \Rightarrow ((X2 \in k1_polynom2\ k10_newton\ (k12_nat_3\ X0)) \Rightarrow (k1_funct_1\ X1\ X2 = k1_newton\ X2\ (k11_nat_3\ X0\ X2)))))) \quad (8)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((v1_relat_1\ X1) \wedge ((v4_relat_1\ X1\ k10_newton) \wedge ((v1_funct_1\ X1) \wedge (v1_partfun1\ X1\ k10_newton)))) \Rightarrow ((X1 = k12_nat_3\ X0) \Leftrightarrow (\forall X2.((v7_ordinal1\ X2) \wedge (v1_int_2\ X2)) \Rightarrow (k1_funct_1\ X1\ X2 = k11_nat_3\ X0\ X2)))) \quad (9)$$

Assume the following.

$$\forall X0.((v1_relat_1\ X0) \wedge (v1_funct_1\ X0)) \Rightarrow (\forall X1.(X1 = k13_pre_poly\ X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (k1_funct_1\ X0\ X2 \neq k6_numbers))) \quad (10)$$

Assume the following.

$$\forall X0.((v1_relat_1\ X0) \wedge (v4_valued_0\ X0)) \Rightarrow ((v1_relat_1\ X0) \wedge (v3_valued_0\ X0)) \quad (11)$$

Theorem 1

$$\forall X0.((v7_ordinal1\ X0) \wedge (v1_int_2\ X0)) \Rightarrow (\forall X1.((\neg v1_xboole_0\ X1) \wedge (v7_ordinal1\ X1)) \Rightarrow ((k11_nat_3\ X1\ X0 = k6_numbers) \Rightarrow (k1_seq_1\ (k13_nat_3\ X1)\ X0 = k6_numbers)))$$