

t11_nat_3

(TMahE36Mon8k6KmbTNJmaGoo2SRkdcbXoJP)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k2_nat_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_pre_poly : \iota \Rightarrow \iota$ 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 $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $k6_finseq_1 : \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_nat_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $k4_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_newton : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (k3_finseq_1 X0 = k1_card_1 X0) \quad (2)$$

Assume the following.

$$\forall X0.k2_pre_poly X0 = k6_finseq_1 X0 \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((m1_finseq_1 X0 k1_numbers) \wedge (v7_ordinal1 X1)) \Rightarrow (k2_nat_3 X0 X1 = k1_nat_3 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.\exists X1.(m1_finseq_1 X1 X0) \wedge ((v1_relat_1 X1) \wedge (v4_relat_1 X1 k5_numbers) \wedge ((v5_relat_1 X1 X0) \wedge ((v1_funct_1 X1) \wedge ((v1_xboole_0 X1) \wedge ((v1_finset_1 X1) \wedge (v1_finseq_1 X1)))))) \quad (5)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow ((\neg v1_xboole_0 (k1_card_1 X0)) \wedge (v1_card_1 (k1_card_1 X0))) \quad (6)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow ((v1_xboole_0 (k1_card_1 X0)) \wedge (v1_card_1 (k1_card_1 X0))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_finseq_1 X0) \wedge (v3_valued_0 X0)))) \wedge (v7_ordinal1 X1)) \Rightarrow ((v1_relat_1 (k1_nat_3 X0 X1)) \wedge ((v1_funct_1 (k1_nat_3 X0 X1)) \wedge (v1_finseq_1 (k1_nat_3 X0 X1)))) \quad (8)$$

Assume the following.

$$\forall X0.k6_finseq_1 X0 = k1_xboole_0 \quad (9)$$

Assume the following.

$$\forall X0.(((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_finseq_1 X0) \wedge (v3_valued_0 X0)))) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_finseq_1 X2))) \Rightarrow ((X2 = k1_nat_3 X0 X1) \Leftrightarrow ((k3_finseq_1 X2 = k3_finseq_1 X0) \wedge (\forall X3.(X3 \in k4_finseq_1 X2) \Rightarrow (k1_funct_1 X2 X3 = k2_newton (k1_seq_1 X0 X3) X1))))))) \quad (10)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_xboole_0 X0)) \Rightarrow ((v1_relat_1 X0) \wedge (v1_finseq_1 X0)) \quad (11)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v5_relat_1 X0 k1_numbers)) \Rightarrow ((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \quad (12)$$

Assume the following.

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

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v1_funct_1 X0) \quad (14)$$

Theorem 1

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (k2_nat_3 (k2_pre_poly k1_numbers) X0 = k2_pre_poly k1_numbers)$$