

t11_int_7

(TMX1ikujbrDWDs28PGU1wt8L3d2L39fjxSV)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k3_int_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_polynom2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_newton : \iota$ be given. Let $k13_nat_3 : \iota \Rightarrow \iota$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_nat_3 : \iota \Rightarrow \iota$ be given. Let $k5_nat_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k13_pre_poly : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_newton : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_nat_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge (v7_ordinal1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v1_xboole_0 X1) \wedge (v7_ordinal1 X1)) \Rightarrow (k12_nat_3 (k3_int_2 X1 \\ & X0) = k5_nat_3 k10_newton (k12_nat_3 X1) (k12_nat_3 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge (\\ & (v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge ((v4_valued_0 X1) \wedge (v2_pre_poly \\ & X1)))))) \Rightarrow (\forall X2. ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 X0) \wedge (\\ & (v1_funct_1 X2) \wedge ((v1_partfun1 X2 X0) \wedge ((v4_valued_0 X2) \wedge (v2_pre_poly \\ & X2)))))) \Rightarrow (k1_polynom2 X0 (k5_nat_3 X0 X1 X2) = k9_subset_1 X0 (k1_polynom2 \\ & X0 X1) (k1_polynom2 X0 X2))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge (\\ & (v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge ((v4_valued_0 X1) \wedge (v2_pre_poly \\ & X1)))))) \Rightarrow (k1_polynom2 X0 X1 = k13_pre_poly X1) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1_xboole_0 X0) \wedge (v7_ordinal1 X0)) \Rightarrow ((v1_relat_1 \\ & (k13_nat_3 X0)) \wedge ((v4_relat_1 (k13_nat_3 X0) k10_newton) \wedge ((v1_funct_1 \\ & (k13_nat_3 X0)) \wedge ((v1_partfun1 (k13_nat_3 X0) k10_newton) \wedge ((\\ & v4_valued_0 (k13_nat_3 X0)) \wedge (v2_pre_poly (k13_nat_3 X0))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v7_ordinal1 X0)) \Rightarrow ((v1_relat_1 (k12_nat_3 X0)) \wedge ((v4_relat_1 (k12_nat_3 X0) k10_newton) \wedge ((v1_funct_1 (k12_nat_3 X0)) \wedge ((v1_partfun1 (k12_nat_3 X0) k10_newton) \wedge (v2_pre_poly (k12_nat_3 X0))))))) \quad (5)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow ((v1_relat_1 (k12_nat_3 X0)) \wedge ((v4_relat_1 (k12_nat_3 X0) k10_newton) \wedge ((v1_funct_1 (k12_nat_3 X0)) \wedge ((v1_partfun1 (k12_nat_3 X0) k10_newton) \wedge (v4_valued_0 (k12_nat_3 X0))))))) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v7_ordinal1 X0)) \Rightarrow ((v1_relat_1 (k13_nat_3 X0)) \wedge ((v4_relat_1 (k13_nat_3 X0) k10_newton) \wedge ((v1_funct_1 (k13_nat_3 X0)) \wedge (v1_partfun1 (k13_nat_3 X0) k10_newton)))))) \quad (7)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow ((v1_relat_1 (k12_nat_3 X0)) \wedge ((v4_relat_1 (k12_nat_3 X0) k10_newton) \wedge ((v1_funct_1 (k12_nat_3 X0)) \wedge (v1_partfun1 (k12_nat_3 X0) k10_newton)))))) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v7_ordinal1 X0)) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k10_newton) \wedge ((v1_funct_1 X1) \wedge (v1_partfun1 X1 k10_newton)))))) \Rightarrow ((X1 = k13_nat_3 X0) \Leftrightarrow ((k13_pre_poly X1 = k1_polynom2 k10_newton (k12_nat_3 X0)) \wedge (\forall X2.(v7_ordinal1 X2) \Rightarrow ((X2 \in k1_polynom2 k10_newton (k12_nat_3 X0)) \Rightarrow (k1_funct_1 X1 X2 = k1_newton X2 (k11_nat_3 X0 X2))))))) \quad (9)$$

Theorem 1

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v7_ordinal1 X0)) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge (v7_ordinal1 X1)) \Rightarrow (\forall X2. ((\neg v1_xboole_0 X2) \wedge (v7_ordinal1 X2)) \Rightarrow ((X2 = k3_int_2 X0 X1) \Rightarrow (k1_polynom2 k10_newton (k13_nat_3 X2) = k9_subset_1 k10_newton (k1_polynom2 k10_newton (k13_nat_3 X0)) (k1_polynom2 k10_newton (k13_nat_3 X1)))))))$$