

t15_nat_4 (TMd-
VfwAbN5sdMnjnmxddpntCrFsoUrVZHem)

October 27, 2020

Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k4_nat_d : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_newton : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_int_2 : \iota \Rightarrow o$ be given. Let $r1_int_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k6_nat_d : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k2_newton : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_0 : \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_int_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $r1_nat_d : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\neg (v1_int_2 X1) \wedge ((\neg r1_int_2 X0 X1) \wedge (k6_nat_d X0 X1 \neq X1)))) \quad (2)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_xcmplx_0 X0 k6_numbers = k6_numbers) \quad (3)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (k4_nat_d (k3_xcmplx_0 X0 X1) X0 = k6_numbers)) \quad (4)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\forall X2.(v7_ordinal1 X2) \Rightarrow (k4_nat_d (k1_newton X0 X1) X2 = k4_nat_d (k1_newton (k4_nat_d X0 X2) X1) X2))) \quad (5)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow ((r1_xxreal_0 np_1 X0) \Rightarrow (k2_newton k6_numbers X0 = k6_numbers)) \quad (6)$$

Assume the following.

$$(m2_subset_1\ np_0\ k1_numbers\ k5_numbers) \wedge ((m1_subset_1\ np_0\ k5_numbers) \wedge (m1_subset_1\ np_0\ k1_numbers)) \quad (7)$$

Assume the following.

$$v1_xboole_0\ np_0 \quad (8)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0) \wedge (v7_ordinal1\ X1)) \Rightarrow (k6_nat_d\ X0\ X1 = k3_int_2\ X0\ X1) \quad (10)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1\ X0\ k1_numbers) \wedge (v7_ordinal1\ X1)) \Rightarrow (k2_newton\ X0\ X1 = k1_newton\ X0\ X1) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(v7_ordinal1\ X1) \Rightarrow (\forall X2. \\ & (v7_ordinal1\ X2) \Rightarrow ((X2 = k3_int_2\ X0\ X1) \Leftrightarrow ((r1_nat_d\ X2\ X0) \wedge ((r1_nat_d \\ & X2\ X1) \wedge (\forall X3.(v7_ordinal1\ X3) \Rightarrow (((r1_nat_d\ X3\ X0) \wedge (r1_nat_d \\ & X3\ X1)) \Rightarrow (r1_nat_d\ X3\ X2)))))))) \quad (13) \end{aligned}$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(v7_ordinal1\ X1) \Rightarrow ((r1_nat_d\ X0\ X1) \Leftrightarrow (\exists X2.(v7_ordinal1\ X2) \wedge (X1 = k3_xcmplx_0\ X0\ X2)))) \quad (14)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k4_ordinal1) \Rightarrow (v7_ordinal1\ X0) \quad (15)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow (v1_xcmplx_0\ X0) \quad (16)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(v7_ordinal1\ X1) \Rightarrow (\forall X2. \\ & (v7_ordinal1\ X2) \Rightarrow (((k4_nat_d\ (k1_newton\ X0\ X2)\ X1 = np_1) \wedge ((r1_xxreal_0 \\ & np_1\ X2) \wedge (v1_int_2\ X1))) \Rightarrow (r1_int_2\ X0\ X1)))) \end{aligned}$$