

t17_nat_2

(TMK5PmNAyxYEB1ZwPz2RXQ3GjQByWaYR33t)

October 27, 2020

Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k4_nat_d : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_power : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_nat_d : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $np_0 : \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xreal_0 X2) \Rightarrow (\neg(\neg r1_xxreal_0 X1 X0) \wedge ((\neg r1_xxreal_0 X2 np_1) \wedge \\ & (r1_xxreal_0 (k3_power X2 X1) (k3_power X2 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\neg(\neg \\ & r1_xxreal_0 X0 np_1) \wedge ((\neg r1_xxreal_0 X1 k6_numbers) \wedge (r1_xxreal_0 \\ & (k3_power X0 X1) np_1)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (k3_power X0 np_1 = X0) \quad (3)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow ((\\ & \neg r1_xxreal_0 X1 X0) \Rightarrow (k4_nat_d X0 X1 = X0))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\neg(\neg r1_xxreal_0 np_2 X0) \wedge ((X0 \neq k6_numbers) \wedge (X0 \neq np_1))) \quad (6)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(\forall X1.(v7_ordinal1\ X1)\Rightarrow(\neg(\neg r1_xxreal_0\ X0\ k6_numbers)\wedge(r1_xxreal_0\ X0\ (k4_nat_d\ X1\ X0)))) \quad (7)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow((\neg r1_xxreal_0\ X0\ np_1)\Rightarrow(k4_nat_d\ np_1\ X0 = np_1)) \quad (8)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(\forall X1.(v7_ordinal1\ X1)\Rightarrow(k4_nat_d\ (k3_xcmplx_0\ X0\ X1)\ X0 = k6_numbers)) \quad (9)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow((k4_nat_d\ X0\ np_2 = k6_numbers)\vee(k4_nat_d\ X0\ np_2 = np_1)) \quad (10)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(\forall X1.(v7_ordinal1\ X1)\Rightarrow((r1_xxreal_0\ X0\ X1)\Rightarrow(r1_nat_d\ (k3_power\ np_2\ X0)\ (k3_power\ np_2\ X1)))) \quad (11)$$

Assume the following.

$$((v2_xxreal_0\ np_2)\wedge(m2_subset_1\ np_2\ k1_numbers\ k5_numbers))\wedge((m1_subset_1\ np_2\ k5_numbers)\wedge(m1_subset_1\ np_2\ k1_numbers)) \quad (12)$$

Assume the following.

$$((v2_xxreal_0\ np_1)\wedge(m2_subset_1\ np_1\ k1_numbers\ k5_numbers))\wedge((m1_subset_1\ np_1\ k5_numbers)\wedge(m1_subset_1\ np_1\ k1_numbers)) \quad (13)$$

Assume the following.

$$(m2_subset_1\ np_0\ k1_numbers\ k5_numbers)\wedge((m1_subset_1\ np_0\ k5_numbers)\wedge(m1_subset_1\ np_0\ k1_numbers)) \quad (14)$$

Assume the following.

$$\neg r1_xxreal_0\ np_2\ np_0 \quad (15)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (16)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (17)$$

Assume the following.

$$v6_membered\ k4_ordinal1 \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0)\wedge(v7_ordinal1\ X1))\Rightarrow((v7_ordinal1\ (k3_power\ X0\ X1))\wedge(v1_xreal_0\ (k3_power\ X0\ X1))) \quad (19)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(\forall X1.(v7_ordinal1\ X1)\Rightarrow((r1_nat_d\ X0\ X1)\Leftrightarrow(\exists X2.(v7_ordinal1\ X2)\wedge(X1 = k3_xcmplx_0\ X0\ X2)))) \quad (20)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(v1_xreal_0\ X0) \quad (21)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k1_numbers)\Rightarrow(v1_xreal_0\ X0) \quad (22)$$

Assume the following.

$$\forall X0.(v6_membered\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow(v7_ordinal1\ X1)) \quad (23)$$

Theorem 1

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow((\neg r1_xxreal_0\ X0\ k6_numbers)\Rightarrow(k4_nat_d\ (k3_power\ np_2\ X0)\ np_2 = k6_numbers))$$