

l28_nat_4

(TMM5JkkYnaFTMXqMwh1m4chcVSyU75rA8Jg)

October 27, 2020

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 $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_25 : \iota$ be given. Let $np_1 : \iota$ be given. Let $k4_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_int_2 : \iota \Rightarrow o$ be given. Let $np_2 : \iota$ be given. Let $np_3 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k11_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $np_5 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_0 : \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $v2_membered : \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow ((r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 X1 X2)) \Rightarrow \\ & (r1_xxreal_0 X0 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\neg(r1_xxreal_0 \\ & k6_numbers X0) \wedge ((\neg r1_xxreal_0 (k11_binop_2 X0 X0) (k11_binop_2 \\ & X1 X1)) \wedge (r1_xxreal_0 X0 X1)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_5) \wedge (m2_subset_1 np_5 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_5 k5_numbers) \wedge (m1_subset_1 np_5 k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_25) \wedge (m2_subset_1 np_25 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_25 k5_numbers) \wedge (m1_subset_1 np_25 k1_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$v1_xboole_0 \ np_0 \tag{6}$$

Assume the following.

$$k3_xcmplx_0 \ np_5 \ np_5 = np_25 \tag{7}$$

Assume the following.

$$r1_xxreal_0 \ np_0 \ np_5 \tag{8}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 \ X0)\wedge((\neg v1_xboole_0 \ X1)\wedge \\ (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ X0))))\Rightarrow(\forall X2.(m2_subset_1 \\ X2 \ X0 \ X1)\Leftrightarrow(m1_subset_1 \ X2 \ X1)) \end{aligned} \tag{9}$$

Assume the following.

$$k6_numbers = k1_xboole_0 \tag{10}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 \ X0 \ k5_numbers)\wedge(v7_ordinal1 \ X1))\Rightarrow(k4_nat_1 \ X0 \ X1 = k3_xcmplx_0 \ X0 \ X1) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 \ X0)\wedge(v1_xxreal_0 \ X1))\Rightarrow(k11_binop_2 \ X0 \ X1 = k3_xcmplx_0 \ X0 \ X1) \tag{13}$$

Assume the following.

$$\begin{aligned} \forall X0.(m2_subset_1 \ X0 \ k1_numbers \ k5_numbers)\Rightarrow(\neg(\neg r1_xxreal_0 \\ X0 \ np_1)\wedge((\neg r1_xxreal_0 \ np_5 \ X0)\wedge((v1_int_2 \ X0)\wedge((X0\neq np_2)\wedge \\ (X0\neq np_3))))) \end{aligned} \tag{14}$$

Assume the following.

$$(\neg v1_xboole_0 \ k4_ordinal1)\wedge(v3_ordinal1 \ k4_ordinal1) \tag{15}$$

Assume the following.

$$v3_membered \ k1_numbers \tag{16}$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \tag{17}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 \\ X2 X0 X1)\Rightarrow(m1_subset_1 X2 X0)) \end{aligned} \quad (18)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (19)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(m1_subset_1 \\ (k11_binop_2 X0 X1) k1_numbers) \end{aligned} \quad (20)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (21)$$

Assume the following.

$$\forall X0.(v3_membered X0)\Rightarrow(v2_membered X0) \quad (22)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xreal_0 X0) \quad (23)$$

Assume the following.

$$\begin{aligned} \forall X0.(v2_membered X0)\Rightarrow(\forall X1.(m1_subset_1 X1 X0)\Rightarrow \\ (v1_xxreal_0 X1)) \end{aligned} \quad (24)$$

Theorem 1

$$\begin{aligned} \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers)\Rightarrow((\neg r1_xxreal_0 \\ np_25 X0)\Rightarrow(\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers)\Rightarrow \\ (\neg(\neg r1_xxreal_0 X1 np_1)\wedge((r1_xxreal_0 (k4_nat_1 X1 X1) X0)\wedge \\ ((v1_int_2 X1)\wedge((X1\neq np_2)\wedge(X1\neq np_3))))))) \end{aligned}$$