

t31_int_2 (TMP-
mxT4U4SWcHk6B4NZTjt7ukBQ4PvJ4nnw)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_xreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_2 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_int_2 : \iota \Rightarrow o$ be given. Let $r1_int_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $v2_xreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $np_0 : \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $v3_xreal_0 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\neg(k6_numbers \neq X0) \wedge (r1_xreal_0 X0 k6_numbers)) \quad (2)$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow ((r1_int_1 k6_numbers X0) \Leftrightarrow (X0 = k6_numbers)) \quad (3)$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow (\forall X1.(v1_int_1 X1) \Rightarrow ((r1_int_1 X1 X0) \Rightarrow ((r1_xreal_0 X0 k6_numbers) \vee (r1_xreal_0 X1 X0)))) \quad (4)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xreal_0 X0 X1) \wedge (r1_xreal_0 X1 X0)) \Rightarrow (X0 = X1)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (6)$$

Assume the following.

$$m1_subset_1 \ k1_xboole_0 \ k4_ordinal1 \tag{7}$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 \ X0) \Rightarrow (k2_xcmplx_0 \ X0 \ k6_numbers = X0) \tag{8}$$

Assume the following.

$$\forall X0.(v7_ordinal1 \ X0) \Rightarrow (\forall X1.(v7_ordinal1 \ X1) \Rightarrow ((\neg r1_xxreal_0 \ (k1_nat_1 \ X1 \ np_1) \ X0) \Leftrightarrow (r1_xxreal_0 \ X0 \ X1))) \tag{9}$$

Assume the following.

$$((v2_xxreal_0 \ np_2) \wedge (m2_subset_1 \ np_2 \ k1_numbers \ k5_numbers)) \wedge ((m1_subset_1 \ np_2 \ k5_numbers) \wedge (m1_subset_1 \ np_2 \ k1_numbers)) \tag{10}$$

Assume the following.

$$((v2_xxreal_0 \ np_1) \wedge (m2_subset_1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge ((m1_subset_1 \ np_1 \ k5_numbers) \wedge (m1_subset_1 \ np_1 \ k1_numbers)) \tag{11}$$

Assume the following.

$$\neg v1_xboole_0 \ np_1 \tag{12}$$

Assume the following.

$$(m2_subset_1 \ np_0 \ k1_numbers \ k5_numbers) \wedge ((m1_subset_1 \ np_0 \ k5_numbers) \wedge (m1_subset_1 \ np_0 \ k1_numbers)) \tag{13}$$

Assume the following.

$$\forall X0 : \iota \Rightarrow o. \forall X1. (\forall X2. (v7_ordinal1 \ X2) \Rightarrow (((r1_xxreal_0 \ X1 \ X2) \wedge (\forall X3. (v7_ordinal1 \ X3) \Rightarrow ((r1_xxreal_0 \ X1 \ X3) \Rightarrow ((r1_xxreal_0 \ X2 \ X3) \vee (X0 \ X3)))))) \Rightarrow (X0 \ X2))) \Rightarrow (\forall X2. (v7_ordinal1 \ X2) \Rightarrow ((r1_xxreal_0 \ X1 \ X2) \Rightarrow (X0 \ X2))) \tag{14}$$

Assume the following.

$$k4_xcmplx_0 \ (k4_xcmplx_0 \ np_1) = np_1 \tag{15}$$

Assume the following.

$$k4_xcmplx_0 \ np_0 = np_0 \tag{16}$$

Assume the following.

$$k2_xcmplx_0 \ np_1 \ np_1 = np_2 \tag{17}$$

Assume the following.

$$\forall X0.\forall X1.((v1_int_1 X0)\wedge(v1_int_1 X1))\Rightarrow(r1_int_1 X0 X0) \quad (18)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (19)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0)\wedge(m1_subset_1 X1 k5_numbers))\Rightarrow(k1_nat_1 X0 X1 = k2_xcmplx_0 X0 X1) \quad (21)$$

Assume the following.

$$\forall X0.(v1_int_1 X0)\Rightarrow(\forall X1.(v1_int_1 X1)\Rightarrow(\forall X2.(v1_int_1 X2)\Rightarrow(((r1_int_1 X0 X1)\wedge(r1_int_1 X1 X2))\Rightarrow(r1_int_1 X0 X2)))) \quad (22)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (23)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0)\wedge(v7_ordinal1 X0))\Rightarrow((\neg v7_ordinal1 k4_xcmplx_0 X0)\wedge(v1_xcmplx_0 (k4_xcmplx_0 X0))) \quad (24)$$

Assume the following.

$$\forall X0.((\neg v3_xreal_0 X0)\wedge(v1_xreal_0 X0))\Rightarrow((v1_xcmplx_0 (k4_xcmplx_0 X0))\wedge(\neg v2_xreal_0 (k4_xcmplx_0 X0))) \quad (25)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0)\Rightarrow(v1_xcmplx_0 (k4_xcmplx_0 X0)) \quad (26)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow((v1_int_2 X0)\Leftrightarrow((\neg r1_xreal_0 X0 np_1)\wedge(\forall X1.(v7_ordinal1 X1)\Rightarrow(\neg(r1_int_1 X1 X0)\wedge((X1\neq np_1)\wedge(X1\neq X0)))))) \quad (27)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Leftrightarrow(X0 \in k4_ordinal1) \quad (28)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0)\wedge(v1_xxreal_0 X1))\Rightarrow((r1_xxreal_0 X0 X1)\vee(r1_xxreal_0 X1 X0)) \quad (29)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0)\wedge(m1_subset_1 X1 k5_numbers))\Rightarrow (k1_nat_1 X0 X1 = k1_nat_1 X1 X0) \quad (30)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (31)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xxreal_0 X0) \quad (32)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(v1_xreal_0 X0) \quad (33)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k5_numbers)\Rightarrow(\neg v3_xxreal_0 X0) \quad (34)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(v1_int_1 X0) \quad (35)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xreal_0 X0) \quad (36)$$

Theorem 1

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(\neg(r1_xxreal_0 np_2 X0)\wedge(\forall X1. (m1_subset_1 X1 k5_numbers)\Rightarrow(\neg(v1_int_2 X1)\wedge(r1_int_1 X1 X0))))$$