

t15_topreal3

(TMX3RGXDZXxNxyGhWSiS6QfBDzyx9Tz8CLf)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k11_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k2_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $v3_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $np_0 : \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $v2_valued_0 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v4_valued_0 : \iota \Rightarrow o$ be given. Let $v5_valued_0 : \iota \Rightarrow o$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $k1_rltopsp1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \Rightarrow ((v1_xboole_0 X0) \vee ((v2_xxreal_0 X1) \vee (v3_xxreal_0 X0)))))) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_relat_1 X3) \wedge \\ & ((v1_funct_1 X3) \wedge (v1_finseq_1 X3))) \Rightarrow ((X3 = k11_finseq_1 X0 X1 \\ & X2) \Leftrightarrow ((k3_finseq_1 X3 = np_3) \wedge ((k1_funct_1 X3 np_1 = X0) \wedge ((k1_funct_1 \\ & X3 np_2 = X1) \wedge (k1_funct_1 X3 np_3 = X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow (((r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 X1 X2)) \Rightarrow \\ & (r1_xxreal_0 X0 X2)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k2_xcmplx_0 X0 \text{ k6_numbers} = X0) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow ((\\ & \neg r1_xxreal_0 (k1_nat_1 X1 \text{ np_1}) X0) \Leftrightarrow (r1_xxreal_0 X0 X1))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \text{ np_3}) \wedge (m2_subset_1 \text{ np_3 } k1_numbers \text{ k5_numbers})) \wedge \\ & ((m1_subset_1 \text{ np_3 } k5_numbers) \wedge (m1_subset_1 \text{ np_3 } k1_numbers)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \text{ np_2}) \wedge (m2_subset_1 \text{ np_2 } k1_numbers \text{ k5_numbers})) \wedge \\ & ((m1_subset_1 \text{ np_2 } k5_numbers) \wedge (m1_subset_1 \text{ np_2 } k1_numbers)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \text{ np_1}) \wedge (m2_subset_1 \text{ np_1 } k1_numbers \text{ k5_numbers})) \wedge \\ & ((m1_subset_1 \text{ np_1 } k5_numbers) \wedge (m1_subset_1 \text{ np_1 } k1_numbers)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & (m2_subset_1 \text{ np_0 } k1_numbers \text{ k5_numbers}) \wedge ((m1_subset_1 \text{ np_0 } \\ & k5_numbers) \wedge (m1_subset_1 \text{ np_0 } k1_numbers)) \end{aligned} \quad (10)$$

Assume the following.

$$v1_xboole_0 \text{ np_0} \quad (11)$$

Assume the following.

$$k2_xcmplx_0 \text{ np_2 } \text{ np_1} = \text{ np_3} \quad (12)$$

Assume the following.

$$k2_xcmplx_0 \text{ np_1 } \text{ np_1} = \text{ np_2} \quad (13)$$

Assume the following.

$$k2_xcmplx_0 \text{ np_0 } \text{ np_1} = \text{ np_1} \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \quad (15)$$

Assume the following.

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

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0)\wedge(m1_subset_1 X1 k5_numbers))\Rightarrow(k1_nat_1 X0 X1 = k2_xcmplx_0 X0 X1) \quad (18)$$

Assume the following.

$$\begin{aligned} \exists X0.(m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\ k5_numbers)))\wedge((\neg v1_xboole_0 X0)\wedge((v1_relat_1 X0)\wedge((v4_relat_1 \\ X0 k5_numbers)\wedge((v5_relat_1 X0 k5_numbers)\wedge((v1_funct_1 X0)\wedge \\ ((v1_partfun1 X0 k5_numbers)\wedge((v1_funct_2 X0 k5_numbers k5_numbers)\wedge \\ ((v1_valued_0 X0)\wedge((v2_valued_0 X0)\wedge((v3_valued_0 X0)\wedge((v4_valued_0 \\ X0)\wedge(v5_valued_0 X0)))))))))) \quad (19) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(v1_relat_1 (k11_finseq_1 X0 X1 X2))\wedge(v1_funct_1 (k11_finseq_1 X0 X1 X2)) \quad (20)$$

Assume the following.

$$v6_membered k4_ordinal1 \quad (21)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.v1_finseq_1 (k11_finseq_1 X0 X1 X2) \quad (23)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0)\wedge(m1_subset_1 X1 k5_numbers))\Rightarrow(m2_subset_1 (k1_nat_1 X0 X1) k1_numbers k5_numbers) \quad (25)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(m2_finseq_1\ X1\ (u1_struct_0 \\ (k15_euclid\ X0))) \Rightarrow (\forall X2.(v7_ordinal1\ X2) \Rightarrow (((r1_xxreal_0 \\ np_1\ X2) \wedge (r1_xxreal_0\ (k1_nat_1\ X2\ np_1)\ (k3_finseq_1\ X1))) \Rightarrow \\ (k2_topreal1\ X0\ X1\ X2 = k1_rttopsp1\ (k15_euclid\ X0)\ (k7_partfun1 \\ (u1_struct_0\ (k15_euclid\ X0))\ X1\ X2)\ (k7_partfun1\ (u1_struct_0 \\ (k15_euclid\ X0))\ X1\ (k1_nat_1\ X2\ np_1)))) \wedge ((\neg(r1_xxreal_0\ np_1 \\ X2) \wedge (r1_xxreal_0\ (k1_nat_1\ X2\ np_1)\ (k3_finseq_1\ X1))) \Rightarrow (k2_topreal1 \\ X0\ X1\ X2 = k1_xboole_0)))))) \end{aligned} \quad (26)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0) \wedge (m1_subset_1\ X1\ k5_numbers)) \Rightarrow \\ (k1_nat_1\ X0\ X1 = k1_nat_1\ X1\ X0) \quad (27)$$

Assume the following.

$$\forall X0.(v1_xreal_0\ X0) \Rightarrow (v1_xxreal_0\ X0) \quad (28)$$

Assume the following.

$$\forall X0.((v1_xxreal_0\ X0) \wedge (v2_xxreal_0\ X0)) \Rightarrow ((\neg v1_xboole_0 \\ X0) \wedge ((v1_xxreal_0\ X0) \wedge (\neg v3_xxreal_0\ X0))) \quad (29)$$

Assume the following.

$$\forall X0.(v1_xreal_0\ X0) \Rightarrow (v1_xcmplx_0\ X0) \quad (30)$$

Assume the following.

$$\forall X0.\forall X1.(v1_xboole_0\ X0) \Rightarrow (\forall X2.(m1_subset_1 \\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))) \Rightarrow (v1_xboole_0\ X2)) \quad (31)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow (v1_xxreal_0\ X0) \quad (32)$$

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.

$$\forall X0.(v6_membered\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ X0) \Rightarrow \\ (v7_ordinal1\ X1)) \quad (35)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2)))\Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2)))\Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid np_2)))\Rightarrow \\ & (\forall X3.(m2_finseq_1 X3 (u1_struct_0 (k15_euclid np_2)))\Rightarrow \\ & (\forall X4.(v7_ordinal1 X4)\Rightarrow(\forall X5.(v7_ordinal1 X5)\Rightarrow(\\ & (X3 = k11_finseq_1 X0 X1 X2)\Rightarrow((X4 = k6_numbers)\vee((r1_xxreal_0 X5 \\ & (k1_nat_1 X4 np_1))\vee(k2_topreal1 np_2 X3 X5 = k1_xboole_0)))))))))) \end{aligned}$$