

t3_real_ns1

(TMHhf8Nwuff6Uj59p5gThmeJGhYGJHBVSdP)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_real_ns1 : \iota \Rightarrow \iota$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k1_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $u1_rlvect_1 : \iota \Rightarrow \iota$ be given. Let $l1_normsp_1 : \iota \Rightarrow o$ be given. Let $l2_normsp_0 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_normsp_1 : \iota \Rightarrow o$ be given. Let $k2_real_ns1 : \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_euclid : \iota \Rightarrow \iota$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $k1_real_ns1 : \iota \Rightarrow \iota$ be given. Let $u1_normsp_0 : \iota \Rightarrow \iota$ be given. Let $k3_real_ns1 : \iota \Rightarrow \iota$ be given. Let $g1_normsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & ((\neg v1_xboole_0 X1) \wedge (\neg v1_xboole_0 X3) \wedge ((v1_funct_1 X4) \wedge ((v1_funct_2 X4 X0 X1) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \wedge ((v1_funct_1 X5) \wedge ((v1_funct_2 X5 X2 X3) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 X2 X3)))))) \Rightarrow ((r1_funct_2 X0 X1 X2 X3 X4 X5) \Leftrightarrow (X4 = X5)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & ((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(((v1_funct_1 X3)\wedge(\\ & v1_funct_2 X3 (k2_zfmisc_1 X0 X1) X2)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X1) X2))))))\wedge((m1_subset_1 X4 X0)\wedge \\ & (m1_subset_1 X5 X1))))\Rightarrow(k2_binop_1 X0 X1 X2 X3 X4 X5 = k1_binop_1 \\ & X3 X4 X5) \end{aligned} \tag{3}$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \tag{4}$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(\neg v1_xboole_0 (k1_euclid X0)) \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_rlvect_1 X0)\Rightarrow((v1_funct_1 (u1_rlvect_1 X0))\wedge \\ & ((v1_funct_2 (u1_rlvect_1 X0) (k2_zfmisc_1 k1_numbers (u1_struct_0 \\ & X0)) (u1_struct_0 X0))\wedge(m1_subset_1 (u1_rlvect_1 X0) (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 k1_numbers (u1_struct_0 X0)) (u1_struct_0 \\ & X0)))))) \end{aligned} \tag{6}$$

Assume the following.

$$\forall X0.(l1_normsp_1 X0)\Rightarrow((l1_rlvect_1 X0)\wedge(l2_normsp_0 X0)) \tag{7}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0)\Rightarrow((\neg v2_struct_0 (k4_real_ns1 X0))\wedge \\ & ((v1_normsp_1 (k4_real_ns1 X0))\wedge(l1_normsp_1 (k4_real_ns1 X0)))) \end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0)\Rightarrow((v1_funct_1 (k2_real_ns1 X0))\wedge \\ & ((v1_funct_2 (k2_real_ns1 X0) (k2_zfmisc_1 k1_numbers (k1_euclid \\ & X0)) (k1_euclid X0))\wedge(m1_subset_1 (k2_real_ns1 X0) (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 k1_numbers (k1_euclid X0)) (k1_euclid \\ & X0)))))) \end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge \\
& ((v1_normsp_1\ X1) \wedge (l1_normsp_1\ X1))) \Rightarrow ((X1 = k4_real_ns1\ X0) \Leftrightarrow \\
& ((u1_struct_0\ X1 = k1_euclid\ X0) \wedge ((k4_struct_0\ X1 = k5_euclid\ X0) \wedge \\
& ((r1_funct_2\ (k2_zfmisc_1\ (u1_struct_0\ X1)\ (u1_struct_0\ X1)) \\
& (u1_struct_0\ X1)\ (k2_zfmisc_1\ (k1_euclid\ X0)\ (k1_euclid\ X0))\ (\\
& k1_euclid\ X0)\ (u1_algstr_0\ X1)\ (k1_real_ns1\ X0)) \wedge ((r1_funct_2 \\
& (k2_zfmisc_1\ k1_numbers\ (u1_struct_0\ X1))\ (u1_struct_0\ X1)\ (k2_zfmisc_1 \\
& k1_numbers\ (k1_euclid\ X0))\ (k1_euclid\ X0)\ (u1_rlvect_1\ X1)\ (k2_real_ns1 \\
& X0)) \wedge (r1_funct_2\ (u1_struct_0\ X1)\ k1_numbers\ (k1_euclid\ X0)\ k1_numbers \\
& (u1_normsp_0\ X1)\ (k3_real_ns1\ X0))))))
\end{aligned} \tag{10}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((v1_funct_1\ X1) \wedge ((\\
& v1_funct_2\ X1\ (k2_zfmisc_1\ k1_numbers\ (k1_euclid\ X0))\ (k1_euclid \\
& X0)) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k2_zfmisc_1 \\
& k1_numbers\ (k1_euclid\ X0))\ (k1_euclid\ X0)))))) \Rightarrow ((X1 = k2_real_ns1 \\
& X0) \Leftrightarrow (\forall X2.(m1_subset_1\ X2\ k1_numbers) \Rightarrow (\forall X3.(m2_finseq_2 \\
& X3\ k1_numbers\ (k1_euclid\ X0)) \Rightarrow (k2_binop_1\ k1_numbers\ (k1_euclid \\
& X0)\ (k1_euclid\ X0)\ X1\ X2\ X3 = k9_euclid\ X0\ X3\ X2))))))
\end{aligned} \tag{11}$$

Assume the following.

$$\forall X0.(v1_xreal_0\ X0) \Leftrightarrow (X0 \in k1_numbers) \tag{12}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0\ X0) \wedge (l1_rlvect_1\ X0)) \Rightarrow (\forall X1. \\
& (m1_subset_1\ X1\ (u1_struct_0\ X0)) \Rightarrow (\forall X2.(v1_xreal_0\ X2) \Rightarrow \\
& (k1_rlvect_1\ X0\ X1\ X2 = k1_binop_1\ (u1_rlvect_1\ X0)\ X2\ X1)))
\end{aligned} \tag{13}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_normsp_1\ X0) \Rightarrow ((v1_normsp_1\ X0) \Rightarrow (X0 = g1_normsp_1 \\
& (u1_struct_0\ X0)\ (u2_struct_0\ X0)\ (u1_algstr_0\ X0)\ (u1_rlvect_1 \\
& X0)\ (u1_normsp_0\ X0)))
\end{aligned} \tag{14}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (u1_struct_0 \\
& (k4_real_ns1\ X0))) \Rightarrow (\forall X2.(m2_finseq_2\ X2\ k1_numbers\ (k1_euclid \\
& X0)) \Rightarrow (\forall X3.(v1_xreal_0\ X3) \Rightarrow ((X1 = X2) \Rightarrow (k1_rlvect_1\ (k4_real_ns1 \\
& X0)\ X1\ X3 = k9_euclid\ X0\ X2\ X3))))))
\end{aligned}$$