

t26_ndiff_4

(TMUUQ3diwpy2Pq82mwPHi1FHnW7J3HUNWo9)

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Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $r1_ndiff_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_ndiff_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_real_ns1 : \iota \Rightarrow \iota$ be given. Let $k1_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_ndiff_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_ndiff_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $v5_rlvect_1 : \iota \Rightarrow o$ be given. Let $v6_rlvect_1 : \iota \Rightarrow o$ be given. Let $v7_rlvect_1 : \iota \Rightarrow o$ be given. Let $v8_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_normsp_0 : \iota \Rightarrow o$ be given. Let $v4_normsp_0 : \iota \Rightarrow o$ be given. Let $v1_normsp_1 : \iota \Rightarrow o$ be given. Let $v2_normsp_1 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l2_normsp_0 : \iota \Rightarrow o$ be given. Let $l1_normsp_0 : \iota \Rightarrow o$ be given. Let $l1_normsp_1 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $k4_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g1_normsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $u1_rlvect_1 : \iota \Rightarrow \iota$ be given. Let $u1_normsp_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\
 & (\forall X1. ((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & \quad k1_numbers (k1_euclid X0)))))) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge \\
 & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers (u1_struct_0 \\
 & \quad (k4_real_ns1 X0)))))) \Rightarrow (\forall X3. (v1_xreal_0 X3) \Rightarrow ((X2 = X1) \Rightarrow \\
 & \quad (k1_ndiff_4 X0 X1 X3 = k1_ndiff_3 (k4_real_ns1 X0) X2 X3))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
& ((\neg v1_xboole_0 X1) \wedge (m2_subset_1 X1 k1_numbers k5_numbers)) \Rightarrow \\
& (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& k1_numbers (u1_struct_0 (k4_real_ns1 X1)))))) \Rightarrow (\forall X3.(\\
& v1_xreal_0 X3) \Rightarrow (((r1_xxreal_0 np_1 X0) \wedge ((r1_xxreal_0 X0 X1) \wedge \\
& (r1_ndiff_3 (k4_real_ns1 X1) X2 X3))) \Rightarrow ((r1_ndiff_3 (k4_real_ns1 \\
& np_1) (k1_partfun1 k1_numbers (u1_struct_0 (k4_real_ns1 X1)) \\
& (u1_struct_0 (k4_real_ns1 X1)) (u1_struct_0 (k4_real_ns1 np_1)) \\
& X2 (k4_pdiff_1 X0 X1)) X3) \wedge (k3_funct_2 (u1_struct_0 (k4_real_ns1 \\
& X1)) (u1_struct_0 (k4_real_ns1 np_1)) (k4_pdiff_1 X0 X1) (k1_ndiff_3 \\
& (k4_real_ns1 X1) X2 X3) = k1_ndiff_3 (k4_real_ns1 np_1) (k1_partfun1 \\
& k1_numbers (u1_struct_0 (k4_real_ns1 X1)) (u1_struct_0 (k4_real_ns1 \\
& X1)) (u1_struct_0 (k4_real_ns1 np_1)) X2 (k4_pdiff_1 X0 X1)) X3))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\
& X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1))
\end{aligned} \tag{3}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0) \wedge \\
& (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 \\
& X1 X2 X3 = k1_funct_1 X2 X3)
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\
& (((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 X1)))) \wedge ((v1_funct_1 X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X2 X3)))))) \Rightarrow (k1_partfun1 X0 X1 X2 X3 X4 X5 = k3_relat_1 X4 X5)
\end{aligned} \tag{6}$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \tag{7}$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow & ((\neg v2_struct_0\ (k4_real_ns1\ X0)) \wedge \\ & ((v13_algstr_0\ (k4_real_ns1\ X0)) \wedge ((v2_rlvect_1\ (k4_real_ns1 \\ & X0)) \wedge ((v3_rlvect_1\ (k4_real_ns1\ X0)) \wedge ((v4_rlvect_1\ (k4_real_ns1 \\ & X0)) \wedge ((v5_rlvect_1\ (k4_real_ns1\ X0)) \wedge ((v6_rlvect_1\ (k4_real_ns1 \\ & X0)) \wedge ((v7_rlvect_1\ (k4_real_ns1\ X0)) \wedge ((v8_rlvect_1\ (k4_real_ns1 \\ & X0)) \wedge ((v3_normsp_0\ (k4_real_ns1\ X0)) \wedge ((v4_normsp_0\ (k4_real_ns1 \\ & X0)) \wedge ((v1_normsp_1\ (k4_real_ns1\ X0)) \wedge (v2_normsp_1\ (k4_real_ns1 \\ & X0))))))))))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0\ X0) \wedge (l1_struct_0\ X0)) \Rightarrow (\neg v1_xboole_0\ (u1_struct_0\ X0)) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0\ X0) \wedge (v7_ordinal1\ X0)) \Rightarrow ((\neg v2_struct_0\ (k4_real_ns1\ X0)) \wedge ((\neg v7_struct_0\ (k4_real_ns1\ X0)) \wedge (v1_normsp_1\ (k4_real_ns1\ X0)))) \quad (10)$$

Assume the following.

$$\neg v1_xboole_0\ k1_numbers \quad (11)$$

Assume the following.

$$\forall X0.(l2_struct_0\ X0) \Rightarrow (l1_struct_0\ X0) \quad (12)$$

Assume the following.

$$\forall X0.(l2_normsp_0\ X0) \Rightarrow ((l1_normsp_0\ X0) \wedge (l2_struct_0\ X0)) \quad (13)$$

Assume the following.

$$\forall X0.(l1_normsp_1\ X0) \Rightarrow ((l1_rlvect_1\ X0) \wedge (l2_normsp_0\ X0)) \quad (14)$$

Assume the following.

$$m1_subset_1\ k5_numbers\ (k1_zfmisc_1\ k1_numbers) \quad (15)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow ((\neg v2_struct_0\ (k4_real_ns1\ X0)) \wedge ((v1_normsp_1\ (k4_real_ns1\ X0)) \wedge (l1_normsp_1\ (k4_real_ns1\ X0)))) \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v7_ordinal1\ X0) \wedge (v7_ordinal1\ X1)) \Rightarrow & (\\ & (v1_funct_1\ (k4_pdiff_1\ X0\ X1)) \wedge ((v1_funct_2\ (k4_pdiff_1\ X0\ X1) \\ & (u1_struct_0\ (k4_real_ns1\ X1))\ (u1_struct_0\ (k4_real_ns1\ np_1)))) \wedge \\ & (m1_subset_1\ (k4_pdiff_1\ X0\ X1)\ (k1_zfmisc_1\ (k2_zfmisc_1\ (u1_struct_0 \\ & (k4_real_ns1\ X1))\ (u1_struct_0\ (k4_real_ns1\ np_1)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((\neg v7_struct_0 \\ & X0)\wedge((v13_algstr_0 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge \\ & ((v4_rlvect_1 X0)\wedge((v5_rlvect_1 X0)\wedge((v6_rlvect_1 X0)\wedge((v7_rlvect_1 \\ & X0)\wedge((v8_rlvect_1 X0)\wedge((v3_normsp_0 X0)\wedge((v4_normsp_0 X0)\wedge \\ & ((v2_normsp_1 X0)\wedge(l1_normsp_1 X0))))))))))\wedge(((v1_funct_1 \\ & X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers (u1_struct_0 \\ & X0))))\wedge(v1_xreal_0 X2))\Rightarrow(m1_subset_1 (k1_ndiff_3 X0 X1 X2) \\ & (u1_struct_0 X0)) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0)\wedge(m2_subset_1 X0 k1_numbers k5_numbers))\Rightarrow \\ & (\forall X1.(((v1_funct_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k1_numbers (k1_euclid X0))))\Rightarrow(\forall X2.(v1_xreal_0 X2)\Rightarrow(\\ & (r1_ndiff_4 X0 X1 X2)\Leftrightarrow(\exists X3.((v1_funct_1 X3)\wedge(m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers (u1_struct_0 (k4_real_ns1 \\ & X0))))\wedge((X1 = X3)\wedge(r1_ndiff_3 (k4_real_ns1 X0) X3 X2)))))) \end{aligned} \quad (19)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(k1_euclid X0 = k4_finseq_2 X0 k1_numbers) \quad (20)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.(l1_normsp_1 X0)\Rightarrow((v1_normsp_1 X0)\Rightarrow(X0 = g1_normsp_1 \\ & (u1_struct_0 X0) (u2_struct_0 X0) (u1_algstr_0 X0) (u1_rlvect_1 \\ & X0) (u1_normsp_0 X0)) \end{aligned} \quad (22)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers)\Rightarrow(\forall X1. \\ & ((\neg v1_xboole_0 X1)\wedge(m2_subset_1 X1 k1_numbers k5_numbers))\Rightarrow \\ & (\forall X2.(((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k1_numbers (k1_euclid X1))))\Rightarrow(\forall X3.(v1_xreal_0 X3)\Rightarrow(\\ & ((r1_xxreal_0 np_1 X0)\wedge((r1_xxreal_0 X0 X1)\wedge(r1_ndiff_4 X1 X2 \\ & X3))\Rightarrow((r1_ndiff_3 (k4_real_ns1 np_1) (k1_partfun1 k1_numbers \\ & (k1_euclid X1) (u1_struct_0 (k4_real_ns1 X1)) (u1_struct_0 (k4_real_ns1 \\ & np_1)) X2 (k4_pdiff_1 X0 X1)) X3)\wedge(k1_funct_1 (k4_pdiff_1 X0 X1) \\ & (k1_ndiff_4 X1 X2 X3) = k1_ndiff_3 (k4_real_ns1 np_1) (k1_partfun1 \\ & k1_numbers (k1_euclid X1) (u1_struct_0 (k4_real_ns1 X1)) (u1_struct_0 \\ & (k4_real_ns1 np_1)) X2 (k4_pdiff_1 X0 X1)) X3)))))) \end{aligned}$$