

t34_pdiff_7

(TMPE5ztJY338UCsqGFqrwKSXbZL4kBTfSxP)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ 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 $v1_pdiff_7 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $r2_pdiff_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $r4_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_real_ns1 : \iota \Rightarrow \iota$ be given. Let $v3_nfcont_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r7_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ 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 $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_normsp_1 : \iota \Rightarrow o$ be given. Let $l1_normsp_1 : \iota \Rightarrow o$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_euclid : \iota \Rightarrow \iota$ be given. Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $k1_real_ns1 : \iota \Rightarrow \iota$ be given. Let $u1_rlvect_1 : \iota \Rightarrow \iota$ be given. Let $k2_real_ns1 : \iota \Rightarrow \iota$ be given. Let $u1_normsp_0 : \iota \Rightarrow \iota$ be given.

Let $k3_real_ns1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X0 k5_numbers)) \Rightarrow \\
& (\forall X1.((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 k5_numbers)) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow (\forall X3.((v1_funct_1 \\
& X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 (\\
& k4_real_ns1 X0)) (u1_struct_0 (k4_real_ns1 X1)))))) \Rightarrow (\forall X4. \\
& (m1_subset_1 X4 (k1_zfmisc_1 (u1_struct_0 (k4_real_ns1 X0)))) \Rightarrow \\
& (((v3_nfcont_1 X4 (k4_real_ns1 X0)) \wedge ((r1_xxreal_0 np_1 X2) \wedge \\
& (r1_xxreal_0 X2 X0))) \Rightarrow ((r7_pdiff_1 X0 X1 X2 X3 X4) \Leftrightarrow ((r1_tarski \\
& X4 (k1_relset_1 (u1_struct_0 (k4_real_ns1 X0)) X3)) \wedge (\forall X5. \\
& (m1_subset_1 X5 (u1_struct_0 (k4_real_ns1 X0))) \Rightarrow ((X5 \in X4) \Rightarrow (r2_pdiff_1 \\
& X1 X0 X2 X3 X5))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X0 k5_numbers)) \Rightarrow \\
& (\forall X1.((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 k5_numbers)) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow (\forall X3.((v1_funct_1 \\
& X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid X0) \\
& (k1_euclid X1)))))) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge (m1_subset_1 \\
& X4 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 (k4_real_ns1 X0)) (\\
& u1_struct_0 (k4_real_ns1 X1)))))) \Rightarrow (\forall X5.(X3 = X4) \Rightarrow ((r2_pdiff_7 \\
& X0 X1 X2 X3 X5) \Leftrightarrow (r7_pdiff_1 X0 X1 X2 X4 X5))))))
\end{aligned} \tag{2}$$

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.

$$\begin{aligned}
& \forall X0. \forall X1. (m1_finseq_2 X1 X0) \Rightarrow (\forall X2.(m2_finseq_2 \\
& X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1))
\end{aligned} \tag{4}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{5}$$

Assume the following.

$$\begin{aligned}
& \exists X0. (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\
& k5_numbers))) \wedge ((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v4_relat_1 \\
& X0 k5_numbers) \wedge ((v5_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 X0) \wedge \\
& ((v1_partfun1 X0 k5_numbers) \wedge ((v1_funct_2 X0 k5_numbers k5_numbers) \wedge \\
& ((v1_valued_0 X0) \wedge ((v2_valued_0 X0) \wedge ((v3_valued_0 X0) \wedge ((v4_valued_0 \\
& X0) \wedge (v5_valued_0 X0))))))))))
\end{aligned} \tag{6}$$

Assume the following.

$$v6_membered\ k4_ordinal1 \quad (7)$$

Assume the following.

$$\neg v1_xboole_0\ k1_numbers \quad (8)$$

Assume the following.

$$m1_subset_1\ k5_numbers\ (k1_zfmisc_1\ k1_numbers) \quad (9)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow ((\neg v2_struct_0\ (k4_real_ns1\ X0)) \wedge ((v1_normsp_1\ (k4_real_ns1\ X0)) \wedge (l1_normsp_1\ (k4_real_ns1\ X0)))) \quad (10)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow (m1_finseq_2\ (k1_euclid\ X0)\ k1_numbers) \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge ((v1_normsp_1\ X1) \wedge (l1_normsp_1\ X1))) \Rightarrow ((X1 = k4_real_ns1\ X0) \Leftrightarrow ((u1_struct_0\ X1 = k1_euclid\ X0) \wedge ((k4_struct_0\ X1 = k5_euclid\ X0) \wedge ((r1_funct_2\ (k2_zfmisc_1\ (u1_struct_0\ X1)\ (u1_struct_0\ X1)) (u1_struct_0\ X1)\ (k2_zfmisc_1\ (k1_euclid\ X0)\ (k1_euclid\ X0))\ (k1_euclid\ X0)\ (u1_algstr_0\ X1)\ (k1_real_ns1\ X0)) \wedge ((r1_funct_2\ (k2_zfmisc_1\ k1_numbers\ (u1_struct_0\ X1))\ (u1_struct_0\ X1)\ (k2_zfmisc_1\ k1_numbers\ (k1_euclid\ X0))\ (k1_euclid\ X0)\ (u1_rlvect_1\ X1)\ (k2_real_ns1\ X0)) \wedge (r1_funct_2\ (u1_struct_0\ X1)\ k1_numbers\ (k1_euclid\ X0)\ k1_numbers\ (u1_normsp_0\ X1)\ (k3_real_ns1\ X0)))))))))) \quad (12) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1_xboole_0\ X0) \wedge (m1_subset_1\ X0\ k5_numbers)) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_euclid\ X0))) \Rightarrow ((v1_pdiff_7\ X1\ X0) \Leftrightarrow (\exists X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ (k4_real_ns1\ X0)))) \wedge ((X2 = X1) \wedge (v3_nfcont_1\ X2\ (k4_real_ns1\ X0)))))) \quad (13) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1_xboole_0\ X0) \wedge (m2_subset_1\ X0\ k1_numbers\ k5_numbers)) \Rightarrow (\forall X1.((\neg v1_xboole_0\ X1) \wedge (m2_subset_1\ X1\ k1_numbers\ k5_numbers)) \Rightarrow (\forall X2.(m2_subset_1\ X2\ k1_numbers\ k5_numbers) \Rightarrow (\forall X3.((v1_funct_1\ X3) \wedge (m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k1_euclid\ X0)\ (k1_euclid\ X1)))))) \Rightarrow (\forall X4.(m2_finseq_2\ X4\ k1_numbers\ (k1_euclid\ X0)) \Rightarrow ((r4_pdiff_1\ X0\ X1\ X2\ X3\ X4) \Leftrightarrow (\exists X5.((v1_funct_1\ X5) \wedge (m1_subset_1\ X5\ (k1_zfmisc_1\ (k2_zfmisc_1\ (u1_struct_0\ (k4_real_ns1\ X0))\ (u1_struct_0\ (k4_real_ns1\ X1)))))) \wedge (\exists X6.(m1_subset_1\ X6\ (u1_struct_0\ (k4_real_ns1\ X0)))) \wedge ((X3 = X5) \wedge ((X4 = X6) \wedge (r2_pdiff_1\ X1\ X0\ X2\ X5\ X6)))))))))) \quad (14) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.(v1_xboole_0 X0)\Rightarrow(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_xboole_0 X2)) \quad (15)$$

Assume the following.

$$\forall X0.(v6_membered X0)\Rightarrow(\forall X1.(m1_subset_1 X1 X0)\Rightarrow(v7_ordinal1 X1)) \quad (16)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X0 k5_numbers))\Rightarrow \\ & (\forall X1.((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 k5_numbers))\Rightarrow \\ & (\forall X2.(m1_subset_1 X2 k5_numbers)\Rightarrow(\forall X3.((v1_funct_1 \\ & X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid X0) \\ & (k1_euclid X1))))))\Rightarrow(\forall X4.(m1_subset_1 X4 (k1_zfmisc_1 \\ & (k1_euclid X0)))\Rightarrow(((v1_pdiff_7 X4 X0)\wedge((r1_xxreal_0 np_1 X2)\wedge \\ & (r1_xxreal_0 X2 X0)))\Rightarrow((r2_pdiff_7 X0 X1 X2 X3 X4)\Leftrightarrow((r1_tarski \\ & X4 (k1_relset_1 (k1_euclid X0) X3))\wedge(\forall X5.(m2_finseq_2 \\ & X5 k1_numbers (k1_euclid X0))\Rightarrow((X5 \in X4)\Rightarrow(r4_pdiff_1 X0 X1 X2 X3 \\ & X5)))))))))) \end{aligned}$$