

t21_pdiff_9 (TMKdsD- mZWbd94scqGFwvgU2wvgPqGbihaBe)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ 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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_real_ns1 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $v1_pdiff_7 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_pdiff_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k12_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r4_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X0 k5_numbers)) \Rightarrow \\
& (\forall X1.((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 k5_numbers)) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow (\forall X3.((v1_funct_1 \\
& X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid X0) \\
& (k1_euclid X1)))))) \Rightarrow (\forall X4.(m1_subset_1 X4 (k1_zfmisc_1 \\
& (k1_euclid X0))) \Rightarrow (((v1_pdiff_7 X4 X0) \wedge ((r1_xxreal_0 np_1 X2) \wedge \\
& (r1_xxreal_0 X2 X0))) \Rightarrow ((r2_pdiff_7 X0 X1 X2 X3 X4) \Leftrightarrow ((r1_tarski \\
& X4 (k1_relset_1 (k1_euclid X0) X3)) \wedge (\forall X5.(m2_finseq_2 \\
& X5 k1_numbers (k1_euclid X0)) \Rightarrow ((X5 \in X4) \Rightarrow (r4_pdiff_1 X0 X1 X2 X3 \\
& X5))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
& ((\neg v1_xboole_0 X1) \wedge (m2_subset_1 X1 k1_numbers k5_numbers)) \Rightarrow \\
& (\forall X2.((\neg v1_xboole_0 X2) \wedge (m2_subset_1 X2 k1_numbers k5_numbers)) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 (k4_real_ns1 X1)) (u1_struct_0 (k4_real_ns1 X2)))))) \Rightarrow \\
& (\forall X4.((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k1_euclid X1) (k1_euclid X2)))))) \Rightarrow (\forall X5.(m1_subset_1 X5 \\
& (u1_struct_0 (k4_real_ns1 X1))) \Rightarrow (\forall X6.(m2_finseq_2 X6 \\
& k1_numbers (k1_euclid X1)) \Rightarrow (((X3 = X4) \wedge ((X5 = X6) \wedge (r2_pdiff_1 \\
& X2 X1 X0 X3 X5)) \Rightarrow (k1_funct_1 (k9_pdiff_1 X1 X2 X0 X3 X5) (k12_finseq_1 \\
& k5_numbers np_1) = k12_pdiff_1 X1 X2 X0 X4 X6)))))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
& ((\neg v1_xboole_0 X1) \wedge (m2_subset_1 X1 k1_numbers k5_numbers)) \Rightarrow \\
& (\forall X2.((\neg v1_xboole_0 X2) \wedge (m2_subset_1 X2 k1_numbers k5_numbers)) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 (k4_real_ns1 X1)) (u1_struct_0 (k4_real_ns1 X2)))))) \Rightarrow \\
& (\forall X4.((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k1_euclid X1) (k1_euclid X2)))))) \Rightarrow (\forall X5.(m1_subset_1 X5 \\
& (u1_struct_0 (k4_real_ns1 X1))) \Rightarrow (\forall X6.(m2_finseq_2 X6 \\
& k1_numbers (k1_euclid X1)) \Rightarrow (((X3 = X4) \wedge (X5 = X6)) \Rightarrow ((r2_pdiff_1 \\
& X2 X1 X0 X3 X5) \Leftrightarrow (r4_pdiff_1 X1 X2 X0 X4 X6)))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\
& X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \exists X0.(m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\
& k5_numbers))) \wedge ((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v4_relat_1 \\
& X0 k5_numbers) \wedge ((v5_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 X0) \wedge \\
& ((v1_partfun1 X0 k5_numbers) \wedge ((v1_funct_2 X0 k5_numbers k5_numbers) \wedge \\
& ((v1_valued_0 X0) \wedge ((v2_valued_0 X0) \wedge ((v3_valued_0 X0) \wedge ((v4_valued_0 \\
& X0) \wedge (v5_valued_0 X0)))))))))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \tag{6}$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(v1_xboole_0 X0)\Rightarrow(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_xboole_0 X2)) \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0)\wedge(m2_subset_1 X0 k1_numbers k5_numbers))\Rightarrow \\ & (\forall X1.((\neg v1_xboole_0 X1)\wedge(m2_subset_1 X1 k1_numbers k5_numbers))\Rightarrow \\ & (\forall X2.(m2_subset_1 X2 k1_numbers k5_numbers)\Rightarrow(\forall X3. \\ & ((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (\\ & k1_euclid X0) (k1_euclid X1))))))\Rightarrow(\forall X4.((v1_funct_1 X4)\wedge \\ & (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 (k4_real_ns1 \\ & X0) (u1_struct_0 (k4_real_ns1 X1))))))\Rightarrow(\forall X5.(m1_subset_1 \\ & X5 (k1_zfmisc_1 (k1_euclid X0)))\Rightarrow(\forall X6.(m1_subset_1 X6 \\ & (k1_zfmisc_1 (u1_struct_0 (k4_real_ns1 X0))))\Rightarrow(((r1_xxreal_0 \\ & np_1 X2)\wedge((r1_xxreal_0 X2 X0)\wedge((v1_pdiff_7 X5 X0)\wedge((X4 = X3)\wedge \\ & ((X5 = X6)\wedge(r2_pdiff_7 X0 X1 X2 X3 X5))))))\Rightarrow(\forall X7.(m2_finseq_2 \\ & X7 k1_numbers (k1_euclid X0))\Rightarrow(\forall X8.(m1_subset_1 X8 (u1_struct_0 \\ & (k4_real_ns1 X0)))\Rightarrow(((X7 \in X5)\wedge(X7 = X8))\Rightarrow(k12_pdiff_1 X0 X1 X2 \\ & X3 X7 = k1_funct_1 (k9_pdiff_1 X0 X1 X2 X4 X8) (k12_finseq_1 k5_numbers \\ & np_1))))))))))))) \end{aligned}$$