

t63_pdiff_9

(TMK7ajpz3yXTSf1vUe4yuYegJouWnkgQA8z)

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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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_pdiff_7 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $r3_pdiff_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_pdiff_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_pdiff_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_pdiff_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k12_euclid : \iota \Rightarrow \iota$ be given. Let $k8_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k17_complex1 : \iota \Rightarrow \iota$ be given. Let $k10_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_pdiff_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r4_pdiff_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_pdiff_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_pdiff_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_pdiff_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_pdiff_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\
 & \quad (\forall X1. (m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow (\forall X2. \\
 & \quad (m1_subset_1 X2 (k1_zfmisc_1 (k1_euclid X0)))) \Rightarrow (\forall X3. ((\\
 & v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid \\
 & X0) k1_numbers)))) \Rightarrow (\forall X4. ((v1_funct_1 X4) \wedge (m1_subset_1 \\
 & X4 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid X0) (k1_euclid np_1)))))) \Rightarrow \\
 & \quad (((r2_relset_1 (k1_euclid X0) (k1_euclid np_1) (k3_pdiff_1 X0 \\
 & X3) X4) \wedge ((v1_pdiff_7 X2 X0) \wedge ((r1_xxreal_0 np_1 X1) \wedge ((r1_xxreal_0 \\
 & X1 X0) \wedge (r3_pdiff_9 X0 X2 X1 X3)))))) \Rightarrow ((r1_pdiff_9 X0 X2 (k3_pdiff_9 \\
 & X0 X2 X1 X3)) \Leftrightarrow (r4_pdiff_7 X0 np_1 (k2_pdiff_7 X0 np_1 X1 X4 X2) X2))))))
 \end{aligned}$$

(1)

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\
& \quad (\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (k1_zfmisc_1 (k1_euclid X0))) \Rightarrow (\forall X3.((\\
& v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid \\
& \quad X0) k1_numbers)))) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge (m1_subset_1 \\
& \quad X4 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid X0) (k1_euclid np_1)))) \Rightarrow \\
& \quad (((r2_relset_1 (k1_euclid X0) (k1_euclid np_1) (k3_pdiff_1 X0 \\
& \quad X3) X4) \wedge ((v1_pdiff_7 X2 X0) \wedge ((r1_xxreal_0 np_1 X1) \wedge (r1_xxreal_0 \\
& \quad X1 X0)))) \Rightarrow ((r3_pdiff_9 X0 X2 X1 X3) \Leftrightarrow (r2_pdiff_7 X0 np_1 X1 X4 X2))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\
& \quad (\forall X1.\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& \quad (k2_zfmisc_1 (k1_euclid X0) k1_numbers)))) \Rightarrow (\forall X3.((v1_funct_1 \\
& \quad X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid X0) \\
& \quad (k1_euclid np_1)))) \Rightarrow ((r2_relset_1 (k1_euclid X0) (k1_euclid \\
& \quad np_1) (k3_pdiff_1 X0 X2) X3) \Rightarrow (((r1_tarski X1 (k1_relset_1 (k1_euclid \\
& \quad X0) X2)) \wedge (r2_pdiff_9 X1 X0 X2)) \Leftrightarrow (r1_pdiff_6 X1 np_1 X0 X3))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
& \quad ((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (\\
& \quad k1_euclid X0) k1_numbers)))) \Rightarrow (k1_relset_1 (k1_euclid X0) (k3_pdiff_1 \\
& \quad X0 X1) = k1_relset_1 (k1_euclid X0) X1))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\
& (\forall X1.((\neg v1_xboole_0 X1) \wedge (m2_subset_1 X1 k1_numbers k5_numbers)) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k1_euclid X0))) \Rightarrow (\forall X3. \\
& ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (\\
& k1_euclid X0) (k1_euclid X1)))))) \Rightarrow (((v1_pdiff_7 X2 X0) \wedge (r1_tarski \\
& X2 (k1_relset_1 (k1_euclid X0) X3))) \Rightarrow ((\forall X4.(m2_subset_1 \\
& X4 k1_numbers k5_numbers) \Rightarrow (((r1_xxreal_0 np_1 X4) \wedge (r1_xxreal_0 \\
& X4 X0)) \Rightarrow ((r2_pdiff_7 X0 X1 X4 X3 X2) \wedge (r4_pdiff_7 X0 X1 (k2_pdiff_7 \\
& X0 X1 X4 X3 X2) X2))) \Leftrightarrow ((r1_pdiff_6 X2 X1 X0 X3) \wedge (\forall X4.(m2_finseq_2 \\
& X4 k1_numbers (k1_euclid X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 k1_numbers) \Rightarrow \\
& (\neg(X4 \in X2) \wedge ((\neg r1_xxreal_0 X5 k6_numbers) \wedge (\forall X6.(m1_subset_1 \\
& X6 k1_numbers) \Rightarrow (\neg(\neg r1_xxreal_0 X6 k6_numbers) \wedge (\forall X7.(\\
& m2_finseq_2 X7 k1_numbers (k1_euclid X0)) \Rightarrow ((X7 \in X2) \Rightarrow ((r1_xxreal_0 \\
& X6 (k12_euclid (k8_euclid X0 X7 X4))) \vee (\forall X8.(m2_finseq_2 \\
& X8 k1_numbers (k1_euclid X0)) \Rightarrow (r1_xxreal_0 (k12_euclid (k8_euclid \\
& X1 (k1_pdiff_6 X0 X1 (k8_pdiff_1 X0 X1 X3 X7) X8) (k1_pdiff_6 X0 X1 \\
& (k8_pdiff_1 X0 X1 X3 X4) X8))) (k11_binop_2 X5 (k12_euclid X8))))))))))))))))) \\
& \hspace{15em} (5)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\
& ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \hspace{10em} (6)
\end{aligned}$$

Assume the following.

$$\neg v1_xboole_0 np_1 \hspace{15em} (7)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X2 \\
& (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \\
& \hspace{15em} (8)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\
& X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \hspace{10em} (9)
\end{aligned}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \hspace{15em} (10)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\
& (\forall X1.((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k1_euclid X0) k1_numbers)))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge \\
& (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid X0) (k1_euclid \\
& np_1)))))) \Rightarrow (\forall X3.(m2_finseq_2 X3 k1_numbers (k1_euclid \\
& X0)) \Rightarrow (\forall X4.(m2_finseq_2 X4 k1_numbers (k1_euclid X0)) \Rightarrow \\
& (\forall X5.(m2_finseq_2 X5 k1_numbers (k1_euclid X0)) \Rightarrow ((r2_relset_1 \\
& (k1_euclid X0) (k1_euclid np_1) (k3_pdiff_1 X0 X1) X2) \Rightarrow (k17_complex1 \\
& (k10_binop_2 (k1_seq_1 (k1_pdiff_7 X0 X1 X3) X5) (k1_seq_1 (k1_pdiff_7 \\
& X0 X1 X4) X5)) = k12_euclid (k8_euclid np_1 (k1_pdiff_6 X0 np_1 \\
& (k8_pdiff_1 X0 np_1 X2 X3) X5) (k1_pdiff_6 X0 np_1 (k8_pdiff_1 \\
& X0 np_1 X2 X4) X5)))))))))
\end{aligned} \tag{11}$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \tag{12}$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \tag{13}$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \tag{14}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((v7_ordinal1 X0) \wedge ((v1_funct_1 X1) \wedge (m1_subset_1 \\
& X1 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid X0) k1_numbers)))))) \Rightarrow \\
& ((v1_funct_1 (k3_pdiff_1 X0 X1)) \wedge (m1_subset_1 (k3_pdiff_1 X0 \\
& X1) (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid X0) (k1_euclid np_1))))))
\end{aligned} \tag{15}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \tag{16}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\
& \quad (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k1_euclid X0))) \Rightarrow (\forall X2. \\
& \quad ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (\\
& \quad k1_euclid X0) k1_numbers)))) \Rightarrow (((v1_pdiff_7 X1 X0) \wedge (r1_tarski \\
& \quad X1 (k1_relset_1 (k1_euclid X0) X2))) \Rightarrow ((\forall X3.(m2_subset_1 \\
& \quad X3 k1_numbers k5_numbers) \Rightarrow (((r1_xxreal_0 np_1 X3) \wedge (r1_xxreal_0 \\
& \quad X3 X0)) \Rightarrow ((r3_pdiff_9 X0 X1 X3 X2) \wedge (r1_pdiff_9 X0 X1 (k3_pdiff_9 \\
& \quad X0 X1 X3 X2)))))) \Leftrightarrow ((r2_pdiff_9 X1 X0 X2) \wedge (\forall X3.(m2_finseq_2 \\
& \quad X3 k1_numbers (k1_euclid X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 k1_numbers) \Rightarrow \\
& \quad (\neg(X3 \in X1) \wedge (\neg r1_xxreal_0 X4 k6_numbers) \wedge (\forall X5.(m1_subset_1 \\
& \quad X5 k1_numbers) \Rightarrow (\neg(\neg r1_xxreal_0 X5 k6_numbers) \wedge (\forall X6.(\\
& \quad m2_finseq_2 X6 k1_numbers (k1_euclid X0)) \Rightarrow ((X6 \in X1) \Rightarrow ((r1_xxreal_0 \\
& \quad X5 (k12_euclid (k8_euclid X0 X6 X3))) \vee (\forall X7.(m2_finseq_2 \\
& \quad X7 k1_numbers (k1_euclid X0)) \Rightarrow (r1_xxreal_0 (k17_complex1 (k10_binop_2 \\
& \quad (k1_seq_1 (k1_pdiff_7 X0 X2 X6) X7) (k1_seq_1 (k1_pdiff_7 X0 X2 X3) \\
& \quad X7))) (k11_binop_2 X4 (k12_euclid X7)))))))))))))))))
\end{aligned}$$