

t12_pdiff_3 (TMZgebstgbPR- JnDS414b4xMEYCSmAAb93tAS)

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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 $np_2 : \iota$ 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 $r4_pdiff_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_pdiff_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_rcomp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_pdiff_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_fdiff_1 : \iota \Rightarrow o$ be given. Let $v2_fdiff_1 : \iota \Rightarrow o$ be given. Let $k9_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((v1_funct_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\
& \quad (k1_euclid np_2) k1_numbers)))) \Rightarrow (\forall X1.(m2_finseq_2 X1 \\
& \quad k1_numbers (k1_euclid np_2)) \Rightarrow ((r3_pdiff_1 np_2 np_2 X0 X1) \Leftrightarrow \\
& \quad (\exists X2.(m1_subset_1 X2 k1_numbers) \wedge (\exists X3.(m1_subset_1 \\
& \quad X3 k1_numbers) \wedge ((X1 = k10_finseq_1 X2 X3) \wedge (\exists X4.(m1_rcomp_1 \\
& \quad X4 X3) \wedge (r1_tarski X4 (k1_relset_1 k1_numbers (k1_pdiff_2 np_2 \\
& \quad np_2 X0 X1)))) \wedge (\exists X5.((v1_funct_1 X5) \wedge ((v3_fdiff_1 X5) \wedge \\
& \quad (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))))) \wedge \\
& \quad (\exists X6.((v1_funct_1 X6) \wedge ((v2_fdiff_1 X6) \wedge (m1_subset_1 \\
& \quad X6 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))))) \wedge (\forall X7. \\
& \quad (m1_subset_1 X7 k1_numbers) \Rightarrow ((X7 \in X4) \Rightarrow (k9_real_1 (k1_seq_1 (\\
& \quad k1_pdiff_2 np_2 np_2 X0 X1) X7) (k1_seq_1 (k1_pdiff_2 np_2 np_2 \\
& \quad X0 X1) X3) = k7_real_1 (k1_seq_1 X5 (k9_real_1 X7 X3)) (k1_seq_1 X6 \\
& \quad (k9_real_1 X7 X3)))))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\
& ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers))
\end{aligned} \tag{2}$$

Assume the following.

$$\neg v1_xboole_0 np_2 \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. ((m1_subset_1 X0 k5_numbers) \wedge \\
& (((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 k5_numbers)) \wedge ((v1_funct_1 \\
& X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid X1) \\
& k1_numbers)))))) \Rightarrow ((v1_funct_1 (k1_pdiff_3 X0 X1 X2)) \wedge ((v1_funct_2 \\
& (k1_pdiff_3 X0 X1 X2) (k1_euclid X1) k1_numbers) \wedge (m1_subset_1 \\
& (k1_pdiff_3 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid X1) \\
& k1_numbers))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((v1_funct_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k1_euclid np_2) k1_numbers)))) \Rightarrow (\forall X1. (m2_finseq_2 X1 \\
& k1_numbers (k1_euclid np_2)) \Rightarrow ((r4_pdiff_3 X0 X1) \Leftrightarrow (\exists X2. \\
& (m1_subset_1 X2 k1_numbers) \wedge (\exists X3. (m1_subset_1 X3 k1_numbers) \wedge \\
& ((X1 = k10_finseq_1 X2 X3) \wedge (\exists X4. (m1_rcomp_1 X4 X3) \wedge ((r1_tarski \\
& X4 (k1_relset_1 k1_numbers (k1_pdiff_2 np_2 np_2 (k1_pdiff_3 \\
& np_2 np_2 X0) X1)))) \wedge (\exists X5. ((v1_funct_1 X5) \wedge ((v3_fdiff_1 \\
& X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))))) \wedge \\
& (\exists X6. ((v1_funct_1 X6) \wedge ((v2_fdiff_1 X6) \wedge (m1_subset_1 \\
& X6 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))))) \wedge (\forall X7. \\
& (m1_subset_1 X7 k1_numbers) \Rightarrow ((X7 \in X4) \Rightarrow (k9_real_1 (k1_seq_1 (\\
& k1_pdiff_2 np_2 np_2 (k1_pdiff_3 np_2 np_2 X0) X1) X7) (k1_seq_1 \\
& (k1_pdiff_2 np_2 np_2 (k1_pdiff_3 np_2 np_2 X0) X1) X3) = k7_real_1 \\
& (k1_seq_1 X5 (k9_real_1 X7 X3)) (k1_seq_1 X6 (k9_real_1 X7 X3))))))))))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0. (m2_finseq_2 X0 k1_numbers (k1_euclid np_2)) \Rightarrow (\forall X1. \\
& ((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (\\
& k1_euclid np_2) k1_numbers)))) \Rightarrow ((r4_pdiff_3 X1 X0) \Leftrightarrow (r3_pdiff_1 \\
& np_2 np_2 (k1_pdiff_3 np_2 np_2 X1) X0))
\end{aligned}$$