

t9_pdiff_5

(TMXs5Noi4foVkXroh6AeEz9Bj5HkrNaZagT)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ 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 $k11_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r9_pdiff_5 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_fdiff_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_pdiff_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_pdiff_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $v3_fdiff_1 : \iota \Rightarrow o$ 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 $k4_ordinal1 : \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_finseq_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k1_numbers) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_numbers) \Rightarrow (\forall X3. \\ & (m2_finseq_2 X3 k1_numbers (k1_euclid np_3)) \Rightarrow (\forall X4.((\\ & v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid \\ & np_3) k1_numbers)))) \Rightarrow (((X3 = k11_finseq_1 X0 X1 X2) \wedge (r3_pdiff_1 \\ & np_3 np_3 X4 X3)) \Rightarrow (r1_fdiff_1 (k1_pdiff_2 np_3 np_3 X4 X3) X2)))))) \\ & (1) \end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_funct_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\
& \quad (k1_euclid\ np_3) k1_numbers)))) \Rightarrow (\forall X1.(m2_finseq_2 X1 \\
& \quad k1_numbers (k1_euclid\ np_3)) \Rightarrow ((r3_pdiff_1\ np_3\ np_3 X0 X1) \Leftrightarrow \\
& \quad (\exists X2.(m1_subset_1 X2 k1_numbers) \wedge (\exists X3.(m1_subset_1 \\
& \quad X3 k1_numbers) \wedge (\exists X4.(m1_subset_1 X4 k1_numbers) \wedge ((X1 = \\
& \quad k11_finseq_1 X2 X3 X4) \wedge (\exists X5.(m1_rcomp_1 X5 X4) \wedge ((r1_tarski \\
& \quad X5 (k1_relset_1 k1_numbers (k1_pdiff_2\ np_3\ np_3 X0 X1))) \wedge (\exists X6. \\
& \quad ((v1_funct_1 X6) \wedge ((v3_fdiff_1 X6) \wedge (m1_subset_1 X6 (k1_zfmisc_1 \\
& \quad (k2_zfmisc_1 k1_numbers k1_numbers)))))) \wedge (\exists X7.((v1_funct_1 \\
& \quad X7) \wedge ((v2_fdiff_1 X7) \wedge (m1_subset_1 X7 (k1_zfmisc_1 (k2_zfmisc_1 \\
& \quad k1_numbers k1_numbers)))))) \wedge (\forall X8.(m1_subset_1 X8 k1_numbers) \Rightarrow \\
& \quad ((X8 \in X5) \Rightarrow (k9_real_1 (k1_seq_1 (k1_pdiff_2\ np_3\ np_3 X0 X1) X8) \\
& \quad (k1_seq_1 (k1_pdiff_2\ np_3\ np_3 X0 X1) X4) = k7_real_1 (k1_seq_1 \\
& \quad X6 (k9_real_1 X8 X4) (k1_seq_1 X7 (k9_real_1 X8 X4)))))))))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& ((v2_xxreal_0\ np_3) \wedge (m2_subset_1\ np_3\ k1_numbers\ k5_numbers)) \wedge \\
& ((m1_subset_1\ np_3\ k5_numbers) \wedge (m1_subset_1\ np_3\ k1_numbers))
\end{aligned} \tag{3}$$

Assume the following.

$$\neg v1_xboole_0\ np_3 \tag{4}$$

Assume the following.

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

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.((m1_subset_1 X0 k5_numbers) \wedge \\
& (((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 k5_numbers)) \wedge ((v1_funct_1 \\
& \quad X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid X1) \\
& \quad k1_numbers)))))) \Rightarrow ((v1_funct_1 (k1_pdiff_3 X0 X1 X2)) \wedge ((v1_funct_2 \\
& \quad (k1_pdiff_3 X0 X1 X2) (k1_euclid X1) k1_numbers) \wedge (m1_subset_1 \\
& \quad (k1_pdiff_3 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid X1) \\
& \quad k1_numbers))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_funct_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\
& \quad (k1_euclid np_3) k1_numbers)))) \Rightarrow (\forall X1.(m2_finseq_2 X1 \\
& \quad k1_numbers (k1_euclid np_3)) \Rightarrow ((r9_pdiff_5 X0 X1) \Leftrightarrow (\exists X2. \\
& (m1_subset_1 X2 k1_numbers) \wedge (\exists X3.(m1_subset_1 X3 k1_numbers) \wedge \\
& \quad (\exists X4.(m1_subset_1 X4 k1_numbers) \wedge ((X1 = k11_finseq_1 X2 \\
& \quad X3 X4) \wedge (\exists X5.(m1_rcomp_1 X5 X4) \wedge ((r1_tarski X5 (k1_relset_1 \\
& \quad k1_numbers (k1_pdiff_2 np_3 np_3 (k1_pdiff_3 np_3 np_3 X0) \\
& \quad X1))) \wedge (\exists X6.((v1_funct_1 X6) \wedge ((v3_fdiff_1 X6) \wedge (m1_subset_1 \\
& \quad X6 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))))) \wedge (\exists X7. \\
& ((v1_funct_1 X7) \wedge ((v2_fdiff_1 X7) \wedge (m1_subset_1 X7 (k1_zfmisc_1 \\
& \quad (k2_zfmisc_1 k1_numbers k1_numbers)))))) \wedge (\forall X8.(m1_subset_1 \\
& \quad X8 k1_numbers) \Rightarrow ((X8 \in X5) \Rightarrow (k9_real_1 (k1_seq_1 (k1_pdiff_2 np_3 \\
& \quad np_3 (k1_pdiff_3 np_3 np_3 X0) X1) X8) (k1_seq_1 (k1_pdiff_2 \\
& \quad np_3 np_3 (k1_pdiff_3 np_3 np_3 X0) X1) X4) = k7_real_1 (k1_seq_1 \\
& \quad X6 (k9_real_1 X8 X4)) (k1_seq_1 X7 (k9_real_1 X8 X4)))))))))))))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. k11_finseq_1 X0 X1 X2 = k7_finseq_1 \\
& (k7_finseq_1 (k9_finseq_1 X0) (k9_finseq_1 X1)) (k9_finseq_1 \\
& \quad X2)
\end{aligned} \tag{8}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\
& \quad X1 k1_numbers) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_numbers) \Rightarrow (\forall X3. \\
& \quad (m2_finseq_2 X3 k1_numbers (k1_euclid np_3)) \Rightarrow (\forall X4.((\\
& v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid \\
& \quad np_3) k1_numbers)))) \Rightarrow (((X3 = k11_finseq_1 X0 X1 X2) \wedge (r9_pdiff_5 \\
& \quad X4 X3)) \Rightarrow (r1_fdiff_1 (k1_pdiff_2 np_3 np_3 (k1_pdiff_3 np_3 \\
& \quad np_3 X4) X3) X2))))))
\end{aligned}$$