

t16_pdiff_3 (TMYLSNxpDBoHsH- ErzJbp6pEGkys9vUKVhfh)

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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 $k5_pdiff_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1_fdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_pdiff_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_fdiff_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $m1_rcomp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ 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 $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\
& X1 k1_numbers) \Rightarrow (\forall X2.(m2_finseq_2 X2 k1_numbers (k1_euclid \\
& np_2)) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k1_euclid np_2) k1_numbers)))) \Rightarrow (((X2 = k10_finseq_1 \\
& X0 X1) \wedge (r4_pdiff_3 X3 X2)) \Rightarrow (k5_pdiff_3 X3 X2 = k1_fdiff_1 (k1_pdiff_2 \\
& np_2 np_2 (k1_pdiff_3 np_2 np_2 X3) X2) X1))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\
& X1 k1_numbers) \Rightarrow (\forall X2.(m2_finseq_2 X2 k1_numbers (k1_euclid \\
& np_2)) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k1_euclid np_2) k1_numbers)))) \Rightarrow (((X2 = k10_finseq_1 \\
& X0 X1) \wedge (r4_pdiff_3 X3 X2)) \Rightarrow (r1_fdiff_1 (k1_pdiff_2 np_2 np_2 \\
& (k1_pdiff_3 np_2 np_2 X3) X2) X1))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& (k1_relset_1 (k1_euclid\ np_2) (k1_pdiff_1\ np_2\ np_2) = k1_euclid \\
& np_2) \wedge ((k2_relset_1\ k1_numbers\ (k1_pdiff_1\ np_2\ np_2) = k1_numbers) \wedge \\
& (\forall X0.(m1_subset_1\ X0\ k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\
& X1\ k1_numbers) \Rightarrow (k1_seq_1\ (k1_pdiff_1\ np_2\ np_2) (k10_finseq_1 \\
& X0\ X1) = X1))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1\ X0\ k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\
& X1\ k1_numbers) \Rightarrow (\forall X2.(m2_finseq_2\ X2\ k1_numbers\ (k1_euclid \\
& np_2)) \Rightarrow (\forall X3.((v1_funct_1\ X3) \wedge (m1_subset_1\ X3\ (k1_zfmisc_1 \\
& (k2_zfmisc_1\ (k1_euclid\ np_2)\ k1_numbers)))) \Rightarrow (((X2 = k10_finseq_1 \\
& X0\ X1) \wedge (r3_pdiff_1\ np_2\ np_2\ X3\ X2)) \Rightarrow (k11_pdiff_1\ np_2\ np_2 \\
& X3\ X2 = k1_fdiff_1\ (k1_pdiff_2\ np_2\ np_2\ X3\ X2)\ X1))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& ((v2_xxreal_0\ np_2) \wedge (m2_subset_1\ np_2\ k1_numbers\ k5_numbers)) \wedge \\
& ((m1_subset_1\ np_2\ k5_numbers) \wedge (m1_subset_1\ np_2\ k1_numbers))
\end{aligned} \tag{5}$$

Assume the following.

$$\neg v1_xboole_0\ np_2 \tag{6}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.((m1_subset_1\ X0\ k5_numbers) \wedge \\
& (((\neg v1_xboole_0\ X1) \wedge (m1_subset_1\ X1\ k5_numbers)) \wedge ((v1_funct_1 \\
& X2) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k1_euclid\ X1) \\
& k1_numbers)))))) \Rightarrow ((v1_funct_1\ (k1_pdiff_3\ X0\ X1\ X2)) \wedge ((v1_funct_2 \\
& (k1_pdiff_3\ X0\ X1\ X2) (k1_euclid\ X1) k1_numbers) \wedge (m1_subset_1 \\
& (k1_pdiff_3\ X0\ X1\ X2) (k1_zfmisc_1\ (k2_zfmisc_1\ (k1_euclid\ X1) \\
& k1_numbers))))))
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_funct_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\
& \quad (k1_euclid np_2) k1_numbers)))) \Rightarrow (\forall X1.(m2_finseq_2 X1 \\
& \quad k1_numbers (k1_euclid np_2)) \Rightarrow ((r4_pdiff_3 X0 X1) \Leftrightarrow (\exists X2. \\
& \quad (m1_subset_1 X2 k1_numbers) \wedge (\exists X3.(m1_subset_1 X3 k1_numbers) \wedge \\
& \quad ((X1 = k10_finseq_1 X2 X3) \wedge (\exists X4.(m1_rcomp_1 X4 X3) \wedge ((r1_tarski \\
& \quad X4 (k1_relset_1 k1_numbers (k1_pdiff_2 np_2 np_2 (k1_pdiff_3 \\
& \quad np_2 np_2 X0) X1))) \wedge (\exists X5.((v1_funct_1 X5) \wedge ((v3_fdiff_1 \\
& \quad X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))))) \wedge \\
& \quad (\exists X6.((v1_funct_1 X6) \wedge ((v2_fdiff_1 X6) \wedge (m1_subset_1 \\
& \quad X6 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))))) \wedge (\forall X7. \\
& \quad (m1_subset_1 X7 k1_numbers) \Rightarrow ((X7 \in X4) \Rightarrow (k9_real_1 (k1_seq_1 (\\
& \quad k1_pdiff_2 np_2 np_2 (k1_pdiff_3 np_2 np_2 X0) X1) X7) (k1_seq_1 \\
& \quad (k1_pdiff_2 np_2 np_2 (k1_pdiff_3 np_2 np_2 X0) X1) X3) = k7_real_1 \\
& \quad (k1_seq_1 X5 (k9_real_1 X7 X3)) (k1_seq_1 X6 (k9_real_1 X7 X3)))))))))) \wedge \\
& \quad (9)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
& \quad (m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow (\forall X2.((v1_funct_1 \\
& \quad X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid X0) \\
& \quad k1_numbers)))) \Rightarrow (\forall X3.(m2_finseq_2 X3 k1_numbers (k1_euclid \\
& \quad X0)) \Rightarrow (k1_pdiff_2 X0 X1 X2 X3 = k1_partfun1 k1_numbers (k1_euclid \\
& \quad X0) (k1_euclid X0) k1_numbers (k6_pdiff_1 X0 X1 X3) X2))) \\
& \quad (10)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\
& \quad (\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow (\forall X2. \\
& \quad ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (\\
& \quad k1_euclid X0) k1_numbers)))) \Rightarrow (\forall X3.(m2_finseq_2 X3 k1_numbers \\
& \quad (k1_euclid X0)) \Rightarrow ((r3_pdiff_1 X0 X1 X2 X3) \Leftrightarrow (r1_fdiff_1 (k1_partfun1 \\
& \quad k1_numbers (k1_euclid X0) (k1_euclid X0) k1_numbers (k6_pdiff_1 \\
& \quad X0 X1 X3) X2) (k1_seq_1 (k1_pdiff_1 X1 X0) X3)))))) \\
& \quad (11)
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(m2_finseq_2 X0 k1_numbers (k1_euclid np_2)) \Rightarrow (\forall X1. \\
& \quad ((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (\\
& \quad k1_euclid np_2) k1_numbers)))) \Rightarrow ((r4_pdiff_3 X1 X0) \Rightarrow (k5_pdiff_3 \\
& \quad X1 X0 = k11_pdiff_1 np_2 np_2 (k1_pdiff_3 np_2 np_2 X1) X0))
\end{aligned}$$