

t21_pdiff_4

(TMK8xJZZLdhinaNUxxfgyqGZ83QZt1RGCvt)

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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 $k11_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_fdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_pdiff_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1_rvsum_1 : \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k10_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ 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.

$$\begin{aligned}
 & (k1_relset_1 (k1_euclid\ np_3) (k1_pdiff_1\ np_3\ np_3) = k1_euclid \\
 & \quad np_3) \wedge ((k1_rvsum_1 (k1_pdiff_1\ np_3\ np_3) = k1_numbers) \wedge \\
 & \quad \forall X0.(m1_subset_1\ X0\ k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\
 & \quad X1\ k1_numbers) \Rightarrow (\forall X2.(m1_subset_1\ X2\ k1_numbers) \Rightarrow (k1_seq_1 \\
 & \quad (k1_pdiff_1\ np_3\ np_3) (k11_finseq_1\ X0\ X1\ X2) = X2)))) \tag{1}
 \end{aligned}$$

Assume the following.

$$\begin{aligned}
 & ((v2_xxreal_0\ np_3) \wedge (m2_subset_1\ np_3\ k1_numbers\ k5_numbers)) \wedge \\
 & ((m1_subset_1\ np_3\ k5_numbers) \wedge (m1_subset_1\ np_3\ k1_numbers)) \tag{2}
 \end{aligned}$$

Assume the following.

$$\neg v1_xboole_0\ np_3 \tag{3}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.\forall X1.(m1_finseq_2\ X1\ X0) \Rightarrow (\forall X2.(m2_finseq_2 \\
 & \quad X2\ X0\ X1) \Leftrightarrow (m1_subset_1\ X2\ X1)) \tag{4}
 \end{aligned}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v1_xboole_0 \\ & X0) \wedge (m1_subset_1 X0 k5_numbers)) \wedge ((m1_subset_1 X1 k5_numbers) \wedge \\ & (((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k1_euclid X0) k1_numbers)))) \wedge (m1_subset_1 X3 (k1_euclid X0)))))) \Rightarrow \\ & (k11_pdiff_1 X0 X1 X2 X3 = k10_pdiff_1 X0 X1 X2 X3) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow (m1_finseq_2 (k1_euclid X0) k1_numbers) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & (m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow (\forall X2. ((v1_funct_1 \\ & X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid X0) \\ & k1_numbers)))) \Rightarrow (\forall X3. (m2_finseq_2 X3 k1_numbers (k1_euclid \\ & X0)) \Rightarrow (k1_pdiff_2 X0 X1 X2 X3 = k1_partfun1 k1_numbers (k1_euclid \\ & X0) (k1_euclid X0) k1_numbers (k6_pdiff_1 X0 X1 X3) X2)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\ & (\forall X1. (m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow (\forall X2. \\ & ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (\\ & k1_euclid X0) k1_numbers)))) \Rightarrow (\forall X3. (m2_finseq_2 X3 k1_numbers \\ & (k1_euclid X0)) \Rightarrow (k10_pdiff_1 X0 X1 X2 X3 = k1_fdiff_1 (k1_partfun1 \\ & k1_numbers (k1_euclid X0) (k1_euclid X0) k1_numbers (k6_pdiff_1 \\ & X0 X1 X3) X2) (k1_seq_1 (k1_pdiff_1 X1 X0) X3)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0. (m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1. (m1_subset_1 \\ & X1 k1_numbers) \Rightarrow (\forall X2. (m1_subset_1 X2 k1_numbers) \Rightarrow (\forall X3. \\ & (m2_finseq_2 X3 k1_numbers (k1_euclid np_3)) \Rightarrow (\forall X4. ((\\ & v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid \\ & np_3) k1_numbers)))) \Rightarrow ((X3 = k11_finseq_1 X0 X1 X2) \Rightarrow (k11_pdiff_1 \\ & np_3 np_3 X4 X3 = k1_fdiff_1 (k1_pdiff_2 np_3 np_3 X4 X3) X2)))))) \end{aligned}$$