

t8_pdiff_4

(TMbCfF5Q9Tgoir8ckjp2inC4kCa9Q16kFnH)

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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 $k1_euclid : \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ be given. Let $k1_numbers : \iota$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k11_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_fdiff_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_pdiff_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $r3_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota$ 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 $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v3_card_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ 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.

$$\begin{aligned}
 & (k1_relset_1 (k1_euclid\ np_3) (k1_pdiff_1\ np_2\ np_3) = k1_euclid \\
 & \quad np_3) \wedge ((k1_rvsum_1 (k1_pdiff_1\ np_2\ np_3) = k1_numbers) \wedge \\
 & \quad \forall X0.(m1_subset_1\ X0\ k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\
 & \quad X1\ k1_numbers) \Rightarrow (\forall X2.(m1_subset_1\ X2\ k1_numbers) \Rightarrow (k1_seq_1 \\
 & \quad (k1_pdiff_1\ np_2\ np_3) (k11_finseq_1\ X0\ X1\ X2) = X1)))) \tag{1}
 \end{aligned}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.(\neg v1_xboole_0\ X0) \Rightarrow (\forall X1.((v3_card_1\ X1\ np_3) \wedge \\
 & \quad (m2_finseq_1\ X1\ X0)) \Rightarrow (\exists X2.(m1_subset_1\ X2\ X0) \wedge (\exists X3. \\
 & \quad (m1_subset_1\ X3\ X0) \wedge (\exists X4.(m1_subset_1\ X4\ X0) \wedge (X1 = k11_finseq_1 \\
 & \quad X2\ X3\ X4)))))) \tag{2}
 \end{aligned}$$

Assume the following.

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

Assume the following.

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

Assume the following.

$$\begin{aligned} & ((v2_xreal_0 \ np_2) \wedge (m2_subset_1 \ np_2 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_2 \ k5_numbers) \wedge (m1_subset_1 \ np_2 \ k1_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (m1_finseq_2 \ X1 \ X0) \Rightarrow (\forall X2. (m2_finseq_2 \\ X2 \ X0 \ X1) \Leftrightarrow (m1_subset_1 \ X2 \ X1)) \end{aligned} \quad (6)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (7)$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (m1_finseq_2 \ X1 \ X0) \Rightarrow (\forall X2. (m2_finseq_2 \\ X2 \ X0 \ X1) \Rightarrow (m2_finseq_1 \ X2 \ X0)) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0. (v7_ordinal1 \ X0) \Rightarrow (m1_finseq_2 \ (k1_euclid \ X0) \ k1_numbers) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0. (m2_subset_1 \ X0 \ k1_numbers \ k5_numbers) \Rightarrow (\forall X1. \\ (m2_subset_1 \ X1 \ k1_numbers \ k5_numbers) \Rightarrow (\forall X2. ((v1_funct_1 \\ X2) \wedge (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k1_euclid \ X0) \\ k1_numbers)))) \Rightarrow (\forall X3. (m2_finseq_2 \ X3 \ k1_numbers \ (k1_euclid \\ X0)) \Rightarrow (k1_pdfiff_2 \ X0 \ X1 \ X2 \ X3 = k1_partfun1 \ k1_numbers \ (k1_euclid \\ X0) \ (k1_euclid \ X0) \ k1_numbers \ (k6_pdfiff_1 \ X0 \ X1 \ X3) \ X2)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v1_xboole_0 \ X0) \wedge (m2_subset_1 \ X0 \ k1_numbers \ k5_numbers)) \Rightarrow \\ (\forall X1. (m2_subset_1 \ X1 \ k1_numbers \ k5_numbers) \Rightarrow (\forall X2. \\ ((v1_funct_1 \ X2) \wedge (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (\\ k1_euclid \ X0) \ k1_numbers)))) \Rightarrow (\forall X3. (m2_finseq_2 \ X3 \ k1_numbers \\ (k1_euclid \ X0)) \Rightarrow ((r3_pdfiff_1 \ X0 \ X1 \ X2 \ X3) \Leftrightarrow (r1_fdiff_1 \ (k1_partfun1 \\ k1_numbers \ (k1_euclid \ X0) \ (k1_euclid \ X0) \ k1_numbers \ (k6_pdfiff_1 \\ X0 \ X1 \ X3) \ X2) \ (k1_seq_1 \ (k1_pdfiff_1 \ X1 \ X0) \ X3)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0. (m1_subset_1 \ X0 \ k4_ordinal1) \Rightarrow (v7_ordinal1 \ X0) \quad (13)$$

Assume the following.

$$\forall X0. (v7_ordinal1 \ X0) \Rightarrow (\forall X1. (m1_subset_1 \ X1 \ (k1_euclid \\ X0)) \Rightarrow (v3_card_1 \ X1 \ X0)) \quad (14)$$

Theorem 1

$$\begin{aligned} \forall X0.((v1_funct_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\ (k1_euclid\ np_3) k1_numbers)))) \Rightarrow (\forall X1.(m2_finseq_2 X1 \\ k1_numbers (k1_euclid\ np_3)) \Rightarrow ((\exists X2.(m1_subset_1 X2 k1_numbers) \wedge \\ (\exists X3.(m1_subset_1 X3 k1_numbers) \wedge (\exists X4.(m1_subset_1 \\ X4 k1_numbers) \wedge ((X1 = k11_finseq_1 X2 X3 X4) \wedge (r1_fdiff_1 (k1_pdiff_2 \\ np_3\ np_2 X0 X1) X3)))))) \Leftrightarrow (r3_pdiff_1\ np_3\ np_2 X0 X1))) \end{aligned}$$