

t10_pdiff_8

(TMR Rd73h4ttUDZa7LZzen1Qzg6zLDXx1Nqg)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k4_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (v7_ordinal1\ X1) \Rightarrow (\forall X2. (m2_finseq_2 \\ & X2\ k1_numbers\ (k4_finseq_2\ X1\ k1_numbers)) \Rightarrow (\forall X3. (m2_finseq_2 \\ & X3\ k1_numbers\ (k4_finseq_2\ X1\ k1_numbers)) \Rightarrow (k1_seq_1\ (k5_rvsum_1 \\ & X1\ X2\ X3)\ X0 = k9_binop_2\ (k1_seq_1\ X2\ X0)\ (k1_seq_1\ X3\ X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0\ X0) \wedge ((\neg v1_xboole_0\ X1) \wedge \\ & (m1_subset_1\ X1\ (k1_zfmisc_1\ X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2\ X0\ X1) \Leftrightarrow (m1_subset_1\ X2\ X1)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1_finseq_2\ X1\ X0) \Rightarrow (\forall X2. (m2_finseq_2 \\ & X2\ X0\ X1) \Leftrightarrow (m1_subset_1\ X2\ X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v7_ordinal1\ X0) \wedge ((m1_subset_1 \\ & X1\ (k1_euclid\ X0)) \wedge (m1_subset_1\ X2\ (k1_euclid\ X0)))) \Rightarrow (k7_euclid \\ & X0\ X1\ X2 = k1_valued_1\ X1\ X2) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7_ordinal1\ X0)\wedge((m1_subset_1\ X1\ (k4_finseq_2\ X0\ k1_numbers))\wedge(m1_subset_1\ X2\ (k4_finseq_2\ X0\ k1_numbers))))\Rightarrow(k5_rvsum_1\ X0\ X1\ X2 = k1_valued_1\ X1\ X2) \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$(\neg v1_xboole_0\ k4_ordinal1)\wedge(v3_ordinal1\ k4_ordinal1) \quad (7)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7_ordinal1\ X0)\wedge((m1_subset_1\ X1\ (k1_euclid\ X0))\wedge(m1_subset_1\ X2\ (k1_euclid\ X0))))\Rightarrow(m2_finseq_2\ (k7_euclid\ X0\ X1\ X2)\ k1_numbers\ (k1_euclid\ X0)) \quad (9)$$

Assume the following.

$$m1_subset_1\ k5_numbers\ (k1_zfmisc_1\ k1_numbers) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0)\wedge(v7_ordinal1\ X1))\Rightarrow((v1_funct_1\ (k1_pdfiff_1\ X0\ X1))\wedge((v1_funct_2\ (k1_pdfiff_1\ X0\ X1)\ (k1_euclid\ X1)\ k1_numbers)\wedge(m1_subset_1\ (k1_pdfiff_1\ X0\ X1)\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k1_euclid\ X1)\ k1_numbers)))))) \quad (11)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(m1_finseq_2\ (k1_euclid\ X0)\ k1_numbers) \quad (12)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow((\forall X1.(v7_ordinal1\ X1)\Rightarrow((\forall X2.((v1_funct_1\ X2)\wedge((v1_funct_2\ X2\ (k1_euclid\ X1)\ k1_numbers)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k1_euclid\ X1)\ k1_numbers))))))\Rightarrow((X2 = k1_pdfiff_1\ X0\ X1)\Leftrightarrow(\forall X3.(m2_finseq_2\ X3\ k1_numbers\ (k1_euclid\ X1))\Rightarrow(k1_seq_1\ X2\ X3 = k1_seq_1\ X3\ X0)))))) \quad (13)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(k1_euclid\ X0 = k4_finseq_2\ X0\ k1_numbers) \quad (14)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k4_ordinal1)\Rightarrow(v7_ordinal1\ X0) \quad (15)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\ (\forall X1.(m2_finseq_2 X1 k1_numbers (k1_euclid X0)) \Rightarrow (\forall X2. \\ (m2_finseq_2 X2 k1_numbers (k1_euclid X0)) \Rightarrow (\forall X3.(m2_subset_1 \\ X3 k1_numbers k5_numbers) \Rightarrow (k1_seq_1 (k1_pdiff_1 X3 X0) (k7_euclid \\ X0 X1 X2) = k9_binop_2 (k1_seq_1 (k1_pdiff_1 X3 X0) X1) (k1_seq_1 \\ (k1_pdiff_1 X3 X0) X2)))))) \end{aligned}$$