

t11_pdiff_6

(TMMc8hg68SvhREVMYZ2KmH7WGjJHWaQXnEL)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ 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 $k1_euclid : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_pdiff_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_euclid : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k4_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k4_euclid : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(m2_finseq_2\ X1\ k1_numbers \\ (k4_finseq_2\ X0\ k1_numbers)) \Rightarrow (\forall X2.(m2_finseq_2\ X2\ k1_numbers \\ (k4_finseq_2\ X0\ k1_numbers)) \Rightarrow (X1 = k9_rvsum_1\ X0\ (k5_rvsum_1\ X0 \\ X1\ X2)\ X2))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(m2_finseq_2\ X1\ k1_numbers \\ (k4_finseq_2\ X0\ k1_numbers)) \Rightarrow (k9_rvsum_1\ X0\ X1\ X1 = k5_finseq_2 \\ k5_numbers\ X0\ k6_numbers)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(m2_finseq_2\ X1\ k1_numbers \\ (k4_finseq_2\ X0\ k1_numbers)) \Rightarrow (k5_rvsum_1\ X0\ X1\ (k5_finseq_2\ k1_numbers \\ X0\ k6_numbers) = X1)) \end{aligned} \tag{3}$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7_ordinal1\ X0)\wedge((m1_subset_1\ X1\ (k1_euclid\ X0))\wedge(m1_subset_1\ X2\ (k1_euclid\ X0))))\Rightarrow(k7_euclid\ X0\ X1\ X2 = k1_valued_1\ X1\ X2) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7_ordinal1\ X0)\wedge((m1_subset_1\ X1\ (k4_finseq_2\ X0\ k1_numbers))\wedge(m1_subset_1\ X2\ (k4_finseq_2\ X0\ k1_numbers))))\Rightarrow(k5_rvsum_1\ X0\ X1\ X2 = k1_valued_1\ X1\ X2) \quad (6)$$

Assume the following.

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

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(k5_euclid\ X0 = k4_euclid\ X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0\ X0)\wedge(((v1_funct_1\ X2)\wedge((v1_funct_2\ X2\ X0\ X1)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))))))\wedge(m1_subset_1\ X3\ X0)))\Rightarrow(k3_funct_2\ X0\ X1\ X2\ X3 = k1_funct_1\ X2\ X3) \quad (9)$$

Assume the following.

$$v6_membered\ k4_ordinal1 \quad (10)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(\neg v1_xboole_0\ (k1_euclid\ X0)) \quad (11)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(m2_finseq_2\ (k5_euclid\ X0)\ k1_numbers\ (k1_euclid\ X0)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0\ X0)\wedge(((v1_funct_1\ X2)\wedge((v1_funct_2\ X2\ X0\ X1)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))))))\wedge(m1_subset_1\ X3\ X0)))\Rightarrow(m1_subset_1\ (k3_funct_2\ X0\ X1\ X2\ X3)\ X1) \quad (13)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(m1_finseq_2\ (k1_euclid\ X0)\ k1_numbers) \quad (14)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(k4_euclid\ X0 = k5_finseq_2\ k1_numbers\ X0\ k6_numbers) \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0)\Rightarrow(\forall X1.(v7_ordinal1\ X1)\Rightarrow(\forall X2. \\ ((v1_funct_1\ X2)\wedge((v1_funct_2\ X2\ (k1_euclid\ X1)\ (k1_euclid\ X0))\wedge \\ (m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k1_euclid\ X1)\ (k1_euclid \\ X0))))))\Rightarrow((v1_pdiff_6\ X2\ X0\ X1)\Leftrightarrow(\forall X3.(m2_finseq_2\ X3\ k1_numbers \\ (k1_euclid\ X1))\Rightarrow(\forall X4.(m2_finseq_2\ X4\ k1_numbers\ (k1_euclid \\ X1))\Rightarrow(k3_funct_2\ (k1_euclid\ X1)\ (k1_euclid\ X0)\ X2\ (k7_euclid\ X1 \\ X3\ X4) = k7_euclid\ X0\ (k3_funct_2\ (k1_euclid\ X1)\ (k1_euclid\ X0)\ X2 \\ X3)\ (k3_funct_2\ (k1_euclid\ X1)\ (k1_euclid\ X0)\ X2\ X4)))))) \end{aligned} \quad (16)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(k1_euclid\ X0 = k4_finseq_2\ X0\ k1_numbers) \quad (17)$$

Assume the following.

$$\forall X0.(v6_membered\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow(v7_ordinal1\ X1)) \quad (18)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_subset_1\ X0\ k5_numbers)\Rightarrow(\forall X1.(m1_subset_1 \\ X1\ k5_numbers)\Rightarrow(\forall X2.((v1_funct_1\ X2)\wedge((v1_funct_2\ X2 \\ (k1_euclid\ X0)\ (k1_euclid\ X1))\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (\\ k2_zfmisc_1\ (k1_euclid\ X0)\ (k1_euclid\ X1))))))\Rightarrow((v1_pdiff_6 \\ X2\ X1\ X0)\Rightarrow(k3_funct_2\ (k1_euclid\ X0)\ (k1_euclid\ X1)\ X2\ (k5_euclid \\ X0) = k5_euclid\ X1)))) \end{aligned}$$