

t2_pdiff_1

(TMY796B7JE3CTmYsHrr95PHwPURyePy6KUS)

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Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k2_funct_1 : \iota \Rightarrow \iota$ be given. Let $k1_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ 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 $k4_ordinal1 : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_rvsum_1 : \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v2_funct_1 X0) \Rightarrow \\ ((k10_xtuple_0 X0 = k9_xtuple_0 (k2_funct_1 X0)) \wedge (k9_xtuple_0 \\ X0 = k10_xtuple_0 (k2_funct_1 X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_funct_1 X0) \wedge \\ ((v1_funct_2 X0 (k9_xtuple_0 X0) (k10_xtuple_0 X0)) \wedge (m1_subset_1 \\ X0 (k1_zfmisc_1 (k2_zfmisc_1 (k9_xtuple_0 X0) (k10_xtuple_0 X0)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (3)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v5_relat_1 X1 X0))\Rightarrow(k2_relset_1 X0 X1 = k10_xtuple_0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (6)$$

Assume the following.

$$\begin{aligned} & (v3_funct_2 (k1_pdiff_1 np_1 np_1) (k1_euclid np_1) k1_numbers)\wedge \\ & ((k1_relset_1 (k1_euclid np_1) (k1_pdiff_1 np_1 np_1) = k1_euclid \\ & \quad np_1)\wedge((k1_rvsum_1 (k1_pdiff_1 np_1 np_1) = k1_numbers)\wedge \\ & \quad \forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow((k1_seq_1 (k1_pdiff_1 \\ & \quad np_1 np_1) (k12_finseq_1 k1_numbers X0) = X0)\wedge(k1_funct_1 (k2_funct_1 \\ & \quad (k1_pdiff_1 np_1 np_1)) X0 = k12_finseq_1 k1_numbers X0)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v2_funct_1 X0)))\Rightarrow \\ & ((v1_relat_1 (k2_funct_1 X0))\wedge((v1_funct_1 (k2_funct_1 X0))\wedge \\ & \quad (v2_funct_1 (k2_funct_1 X0)))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge(v1_funct_1 X0))\Rightarrow((v1_relat_1 (k2_funct_1 X0))\wedge(v1_funct_1 (k2_funct_1 X0))) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v7_ordinal1 X0)\wedge(v7_ordinal1 X1))\Rightarrow(\\ & (v1_funct_1 (k1_pdiff_1 X0 X1))\wedge((v1_funct_2 (k1_pdiff_1 X0 X1) \\ & (k1_euclid X1) k1_numbers)\wedge(m1_subset_1 (k1_pdiff_1 X0 X1) (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k1_euclid X1) k1_numbers)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v5_relat_1 X1 X0))\Rightarrow((v2_funct_2 X1 X0)\Leftrightarrow(k2_relset_1 X0 X1 = X0)) \quad (11)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))\Rightarrow(((v1_funct_1 X2)\wedge((v2_funct_1 X2)\wedge(v2_funct_2 \\ & X2 X1)))\Rightarrow((v1_funct_1 X2)\wedge(v3_funct_2 X2 X0 X1))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))\Rightarrow(((v1_funct_1 X2)\wedge(v3_funct_2 X2 X0 X1))\Rightarrow \\ & ((v1_funct_1 X2)\wedge((v2_funct_1 X2)\wedge(v2_funct_2 X2 X1)))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \end{aligned} \quad (16)$$

Theorem 1

$$\begin{aligned} & ((v1_funct_1 (k2_funct_1 (k1_pdiff_1 np_1 np_1)))\wedge((v1_funct_2 \\ & (k2_funct_1 (k1_pdiff_1 np_1 np_1)) k1_numbers (k1_euclid np_1))\wedge \\ & (m1_subset_1 (k2_funct_1 (k1_pdiff_1 np_1 np_1)) (k1_zfmisc_1 \\ & (k2_zfmisc_1 k1_numbers (k1_euclid np_1))))))\wedge((v2_funct_1 \\ & (k2_funct_1 (k1_pdiff_1 np_1 np_1)))\wedge((k9_xtuple_0 (k2_funct_1 \\ & (k1_pdiff_1 np_1 np_1)) = k1_numbers)\wedge((k10_xtuple_0 (k2_funct_1 \\ & (k1_pdiff_1 np_1 np_1)) = k1_euclid np_1)\wedge(\exists X0.((v1_funct_1 \\ & X0)\wedge((v1_funct_2 X0 k1_numbers (k1_euclid np_1))\wedge(m1_subset_1 \\ & X0 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers (k1_euclid np_1))))))\wedge \\ & ((v3_funct_2 X0 k1_numbers (k1_euclid np_1))\wedge(k2_funct_1 (k1_pdiff_1 \\ & np_1 np_1) = X0)))))) \end{aligned}$$