

t44_pdiff_9 (TMNXhFkndzTtG- nat4ETWGPGVNJQkPiZfSqm)

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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 $v1_funct_1 : \iota \Rightarrow o$ 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 $np_1 : \iota$ be given. Let $r2_reset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_reset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_pdiff_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r4_pdiff_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_nfcont_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_pdiff_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
 & \forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & (k1_euclid X0) k1_numbers)))) \Rightarrow (r2_reset_1 (k1_euclid X0) (k1_euclid \\
 & np_1) (k3_pdiff_1 X0 (k2_partfun1 (k1_euclid X0) k1_numbers X2 \\
 & X1)) (k2_partfun1 (k1_euclid X0) (k1_euclid np_1) (k3_pdiff_1 \\
 & X0 X2) X1)))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
 & ((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (\\
 & k1_euclid X0) k1_numbers)))) \Rightarrow (k1_reset_1 (k1_euclid X0) (k3_pdiff_1 \\
 & X0 X1) = k1_reset_1 (k1_euclid X0) X1))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\ & (\forall X1.((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k1_euclid X0) k1_numbers)))) \Rightarrow (\forall X2.(m2_finseq_2 X2 k1_numbers \\ & (k1_euclid X0)) \Rightarrow ((r2_nfcont_4 X0 X1 X2) \Leftrightarrow (r3_pdif_7 X0 np_1 (\\ & k3_pdif_1 X0 X1) X2)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\neg v1_xboole_0 np_1 \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X2 \\ & (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (7)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1_funct_1 X2) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow (k2_partfun1 \\ & X0 X1 X2 X3 = k5_relat_1 X2 X3) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (\\ & k1_relset_1 X0 X1 = k9_xtuple_0 X1) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 \\ & (k5_relat_1 X0 X1)) \wedge (v1_funct_1 (k5_relat_1 X0 X1))) \end{aligned} \quad (11)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (12)$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \quad (13)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v7_ordinal1 \ X0)\wedge((v1_funct_1 \ X1)\wedge(m1_subset_1 \\ & X1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k1_euclid \ X0) \ k1_numbers))))\Rightarrow \\ & ((v1_funct_1 \ (k3_pdiff_1 \ X0 \ X1))\wedge(m1_subset_1 \ (k3_pdiff_1 \ X0 \\ & X1) \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k1_euclid \ X0) \ (k1_euclid \ np_1)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 \ X2)\wedge \\ & (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1))))\Rightarrow((v1_funct_1 \\ & (k2_partfun1 \ X0 \ X1 \ X2 \ X3))\wedge(m1_subset_1 \ (k2_partfun1 \ X0 \ X1 \ X2 \ X3) \\ & (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1)))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 \ X0)\wedge(m1_subset_1 \ X0 \ k5_numbers))\Rightarrow \\ & (\forall X1.((\neg v1_xboole_0 \ X1)\wedge(m1_subset_1 \ X1 \ k5_numbers))\Rightarrow \\ & (\forall X2.((v1_funct_1 \ X2)\wedge(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \\ & (k1_euclid \ X0) \ (k1_euclid \ X1))))\Rightarrow(\forall X3.(r4_pdiff_7 \ X0 \\ & X1 \ X2 \ X3)\Leftrightarrow((r1_tarski \ X3 \ (k1_relset_1 \ (k1_euclid \ X0) \ X2))\wedge(\forall X4. \\ & (m2_finseq_2 \ X4 \ k1_numbers \ (k1_euclid \ X0))\Rightarrow((X4 \in \ X3)\Rightarrow(r3_pdiff_7 \\ & X0 \ X1 \ (k2_partfun1 \ (k1_euclid \ X0) \ (k1_euclid \ X1) \ X2 \ X3) \ X4)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 \ X0)\wedge(m2_subset_1 \ X0 \ k1_numbers \ k5_numbers))\Rightarrow \\ & (\forall X1.\forall X2.((v1_funct_1 \ X2)\wedge(m1_subset_1 \ X2 \ (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ (k1_euclid \ X0) \ k1_numbers))))\Rightarrow((r1_pdiff_9 \ X0 \ X1 \\ & X2)\Leftrightarrow(\forall X3.(m2_finseq_2 \ X3 \ k1_numbers \ (k1_euclid \ X0))\Rightarrow(\\ & (X3 \in \ X1)\Rightarrow(r2_nfcont_4 \ X0 \ (k2_partfun1 \ (k1_euclid \ X0) \ k1_numbers \\ & X2 \ X1) \ X3)))) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.(m1_subset_1 \ X0 \ k4_ordinal1)\Rightarrow(v7_ordinal1 \ X0) \quad (19)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ X0 \ X1)))\Rightarrow((v4_relat_1 \ X2 \ X0)\wedge(v5_relat_1 \ X2 \ X1)) \end{aligned} \quad (20)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ X0 \ X1)))\Rightarrow(v1_relat_1 \ X2) \end{aligned} \quad (21)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\ (\forall X1. \forall X2. ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_zfmisc_1 (k1_euclid X0) k1_numbers)))) \Rightarrow (\forall X3. ((v1_funct_1 \\ X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid X0) \\ (k1_euclid np_1)))))) \Rightarrow ((r2_relset_1 (k1_euclid X0) (k1_euclid \\ np_1) (k3_pdif_1 X0 X2) X3) \Rightarrow (((r1_tarski X1 (k1_relset_1 (k1_euclid \\ X0) X2)) \wedge (r1_pdif_9 X0 X1 X2)) \Leftrightarrow (r4_pdif_7 X0 np_1 X3 X1)))))) \end{aligned}$$