

t14_pdiff_9

(TMM3dcW8azZvuZoST6w8Zw7A7MLeTTgnV7g)

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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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_pdiff_7 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_pdiff_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_real_ns1 : \iota \Rightarrow \iota$ be given. Let $v3_nfcont_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X0 k5_numbers)) \Rightarrow \\
 & (\forall X1.((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 k5_numbers)) \Rightarrow \\
 & (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & (k1_euclid X0) (k1_euclid X1)))))) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
 & (k1_zfmisc_1 (k1_euclid X0))) \Rightarrow ((\exists X4.(m1_subset_1 X4 (\\
 & k1_zfmisc_1 (u1_struct_0 (k4_real_ns1 X0)))) \wedge ((X3 = X4) \wedge (v3_nfcont_1 \\
 & X4 (k4_real_ns1 X0)))) \Rightarrow ((r1_pdiff_6 X3 X1 X0 X2) \Leftrightarrow ((r1_tarski X3 \\
 & (k1_relset_1 (k1_euclid X0) X2)) \wedge (\forall X4.(m2_finseq_2 X4 \\
 & k1_numbers (k1_euclid X0)) \Rightarrow ((X4 \in X3) \Rightarrow (r1_pdiff_1 X0 X1 X2 X4))))))))) \\
 & \tag{1}
 \end{aligned}$$

Assume the following.

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

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{3}$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \tag{4}$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \quad (5)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 \ X0) \wedge (m1_subset_1 \ X0 \ k5_numbers)) \Rightarrow \\ & (\forall X1.(m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (k1_euclid \ X0))) \Rightarrow ((\\ & v1_pdiff_7 \ X1 \ X0) \Leftrightarrow (\exists X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (u1_struct_0 \\ & (k4_real_ns1 \ X0)))) \wedge ((X2 = X1) \wedge (v3_nfcont_1 \ X2 \ (k4_real_ns1 \ X0)))))) \end{aligned} \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 \ X0) \wedge (m2_subset_1 \ X0 \ k1_numbers \ k5_numbers)) \Rightarrow \\ & (\forall X1.((\neg v1_xboole_0 \ X1) \wedge (m2_subset_1 \ X1 \ k1_numbers \ k5_numbers)) \Rightarrow \\ & (\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k1_euclid \ X0))) \Rightarrow (\forall X3. \\ & ((v1_funct_1 \ X3) \wedge (m1_subset_1 \ X3 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (\\ & k1_euclid \ X0) \ (k1_euclid \ X1)))))) \Rightarrow ((v1_pdiff_7 \ X2 \ X0) \Rightarrow ((r1_pdiff_6 \\ & X2 \ X1 \ X0 \ X3) \Leftrightarrow ((r1_tarski \ X2 \ (k1_relset_1 \ (k1_euclid \ X0) \ X3)) \wedge (\forall X4. \\ & (m2_finseq_2 \ X4 \ k1_numbers \ (k1_euclid \ X0)) \Rightarrow ((X4 \in X2) \Rightarrow (r1_pdiff_1 \\ & X0 \ X1 \ X3 \ X4)))))))))) \end{aligned}$$