

t13_pdiff_9
(TMQ8drxM6jeHqP8ibQK4MZs9D1fpjYosa8o)

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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 $r1_pdiff_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_pdiff_7 : \iota \Rightarrow \iota \Rightarrow o$ 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 $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $v2_valued_0 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v4_valued_0 : \iota \Rightarrow o$ be given. Let $v5_valued_0 : \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

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

Assume the following.

$$\begin{aligned}
& \exists X0. (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\
& k5_numbers))) \wedge ((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v4_relat_1 \\
& X0 k5_numbers) \wedge ((v5_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 X0) \wedge \\
& ((v1_partfun1 X0 k5_numbers) \wedge ((v1_funct_2 X0 k5_numbers k5_numbers) \wedge \\
& ((v1_valued_0 X0) \wedge ((v2_valued_0 X0) \wedge ((v3_valued_0 X0) \wedge ((v4_valued_0 \\
& X0) \wedge (v5_valued_0 X0))))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \quad (4)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 \ X0) \wedge (m1_subset_1 \ X0 \ k5_numbers)) \Rightarrow \\ & (\forall X1.(m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (k1_euclid \ X0))) \Rightarrow ((\\ & v1_pdfiff_7 \ X1 \ X0) \Leftrightarrow (\exists X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (u1_struct_0 \\ & (k4_real_ns1 \ X0)))) \wedge ((X2 = X1) \wedge (v3_nfcont_1 \ X2 \ (k4_real_ns1 \ X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. (v1_xboole_0 \ X0) \Rightarrow (\forall X2. (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1))) \Rightarrow (v1_xboole_0 \ X2)) \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 \ X0) \wedge (m2_subset_1 \ X0 \ k1_numbers \ k5_numbers)) \Rightarrow \\ & (\forall X1.((\neg v1_xboole_0 \ X1) \wedge (m2_subset_1 \ X1 \ k1_numbers \ k5_numbers)) \Rightarrow \\ & (\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k1_euclid \ X0))) \Rightarrow (\forall X3. \\ & ((v1_funct_1 \ X3) \wedge (m1_subset_1 \ X3 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (\\ & k1_euclid \ X0) \ (k1_euclid \ X1)))))) \Rightarrow ((r1_pdfiff_6 \ X2 \ X1 \ X0 \ X3) \Rightarrow (v1_pdfiff_7 \\ & X2 \ X0)))))) \end{aligned}$$