

t3_pdiff_6

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_real_ns1 : \iota \Rightarrow \iota$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $r1_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_ndiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_ndiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\
 & (\forall X1.((\neg v1_xboole_0 X1) \wedge (m2_subset_1 X1 k1_numbers k5_numbers)) \Rightarrow \\
 & (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & (u1_struct_0 (k4_real_ns1 X0)) (u1_struct_0 (k4_real_ns1 X1)))))) \Rightarrow \\
 & (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & (k1_euclid X0) (k1_euclid X1)))))) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
 & (u1_struct_0 (k4_real_ns1 X0))) \Rightarrow (\forall X5.(m2_finseq_2 X5 \\
 & k1_numbers (k1_euclid X0)) \Rightarrow (((X2 = X3) \wedge ((X4 = X5) \wedge (r1_ndiff_1 \\
 & (k4_real_ns1 X0) (k4_real_ns1 X1) X2 X4)) \Rightarrow (k3_ndiff_1 (k4_real_ns1 \\
 & X0) (k4_real_ns1 X1) X2 X4 = k8_pdiff_1 X0 X1 X3 X5))))))
 \end{aligned} \tag{1}$$

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.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\
& (\forall X1.((\neg v1_xboole_0 X1) \wedge (m2_subset_1 X1 k1_numbers k5_numbers)) \Rightarrow \\
& (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k1_euclid X0) (k1_euclid X1)))))) \Rightarrow (\forall X3.(m2_finseq_2 X3 \\
& k1_numbers (k1_euclid X0)) \Rightarrow ((r1_pdiff_1 X0 X1 X2 X3) \Leftrightarrow (\exists X4. \\
& ((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (\\
& u1_struct_0 (k4_real_ns1 X0)) (u1_struct_0 (k4_real_ns1 X1)))))) \wedge \\
& (\exists X5.(m1_subset_1 X5 (u1_struct_0 (k4_real_ns1 X0)))) \wedge \\
& ((X2 = X4) \wedge ((X3 = X5) \wedge (r1_ndiff_1 (k4_real_ns1 X0) (k4_real_ns1 \\
& X1) X4 X5)))))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \Rightarrow ((m1_subset_1 X1 X0) \Leftrightarrow \\
& (X1 \in X0))) \wedge ((v1_xboole_0 X0) \Rightarrow ((m1_subset_1 X1 X0) \Leftrightarrow (v1_xboole_0 \\
& X1)))
\end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \tag{6}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X0 k5_numbers)) \Rightarrow \\
& (\forall X1.((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 k5_numbers)) \Rightarrow \\
& (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k1_euclid X1) (k1_euclid X0)))))) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge \\
& (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 (k4_real_ns1 \\
& X1)) (u1_struct_0 (k4_real_ns1 X0)))))) \Rightarrow (\forall X4.(m2_finseq_2 \\
& X4 k1_numbers (k1_euclid X1)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 \\
& (k4_real_ns1 X1))) \Rightarrow (((X2 = X3) \wedge ((X4 = X5) \wedge (r1_pdiff_1 X1 X0 X2 X4)) \Rightarrow \\
& (k8_pdiff_1 X1 X0 X2 X4 = k3_ndiff_1 (k4_real_ns1 X1) (k4_real_ns1 \\
& X0) X3 X5)))))))))
\end{aligned}$$