

t21_pdiff_1

(TMKzwmph1M6nZsjV4EiapXxN5T2h52eSc7Q)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_real_ns1 : \iota \Rightarrow \iota$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_ndiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_ndiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_normsp_1 : \iota \Rightarrow o$ be given. Let $l1_normsp_1 : \iota \Rightarrow o$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_euclid : \iota \Rightarrow \iota$ be given. Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $k1_real_ns1 : \iota \Rightarrow \iota$ be given. Let $u1_rlvect_1 : \iota \Rightarrow \iota$ be given. Let $k2_real_ns1 : \iota \Rightarrow \iota$ be given. Let $u1_normsp_0 : \iota \Rightarrow \iota$ be given. Let $k3_real_ns1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\
 & (\forall X1.((\neg v1_xboole_0 X1) \wedge (m2_subset_1 X1 k1_numbers k5_numbers)) \Rightarrow \\
 & (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & (u1_struct_0 (k4_real_ns1 X0)) (u1_struct_0 (k4_real_ns1 X1)))))) \Rightarrow \\
 & (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & (k1_euclid X0) (k1_euclid X1)))))) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
 & (u1_struct_0 (k4_real_ns1 X0))) \Rightarrow (\forall X5.(m2_finseq_2 X5 \\
 & k1_numbers (k1_euclid X0)) \Rightarrow (((X2 = X3) \wedge (X4 = X5)) \Rightarrow ((r1_ndiff_1 \\
 & (k4_real_ns1 X0) (k4_real_ns1 X1) X2 X4) \Leftrightarrow (r1_pdiff_1 X0 X1 X3 X5))))))))) \\
 & \tag{1}
 \end{aligned}$$

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.

$$(\neg v1_xboole_0 \ k4_ordinal1) \wedge (v3_ordinal1 \ k4_ordinal1) \quad (4)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v1_xboole_0 \\ & X0) \wedge (m1_subset_1 \ X0 \ k5_numbers)) \wedge (((\neg v1_xboole_0 \ X1) \wedge (m1_subset_1 \\ & X1 \ k5_numbers)) \wedge ((v1_funct_1 \ X2) \wedge (m1_subset_1 \ X2 \ (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ (k1_euclid \ X0) \ (k1_euclid \ X1)))))) \wedge (m1_subset_1 \\ & X3 \ (k1_euclid \ X0)))) \Rightarrow ((v1_funct_1 \ (k8_pdiff_1 \ X0 \ X1 \ X2 \ X3)) \wedge \\ & (v1_funct_2 \ (k8_pdiff_1 \ X0 \ X1 \ X2 \ X3) \ (k1_euclid \ X0) \ (k1_euclid \ X1)) \wedge \\ & (m1_subset_1 \ (k8_pdiff_1 \ X0 \ X1 \ X2 \ X3) \ (k1_zfmisc_1 \ (k2_zfmisc_1 \\ & (k1_euclid \ X0) \ (k1_euclid \ X1)))))) \end{aligned} \quad (6)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v7_ordinal1 \ X0) \Rightarrow ((\neg v2_struct_0 \ (k4_real_ns1 \ X0)) \wedge \\ & ((v1_normsp_1 \ (k4_real_ns1 \ X0)) \wedge (l1_normsp_1 \ (k4_real_ns1 \ X0)))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1_xboole_0 \ X0) \wedge (m2_subset_1 \ X0 \ k1_numbers \ k5_numbers)) \Rightarrow \\ & (\forall X1. ((\neg v1_xboole_0 \ X1) \wedge (m2_subset_1 \ X1 \ k1_numbers \ k5_numbers)) \Rightarrow \\ & (\forall X2. ((v1_funct_1 \ X2) \wedge (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \\ & (k1_euclid \ X0) \ (k1_euclid \ X1)))))) \Rightarrow (\forall X3. (m2_finseq_2 \ X3 \\ & k1_numbers \ (k1_euclid \ X0)) \Rightarrow ((r1_pdiff_1 \ X0 \ X1 \ X2 \ X3) \Rightarrow (\forall X4. \\ & ((v1_funct_1 \ X4) \wedge ((v1_funct_2 \ X4 \ (k1_euclid \ X0) \ (k1_euclid \ X1)) \wedge \\ & (m1_subset_1 \ X4 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k1_euclid \ X0) \ (k1_euclid \\ & X1)))))) \Rightarrow ((X4 = k8_pdiff_1 \ X0 \ X1 \ X2 \ X3) \Leftrightarrow (\exists X5. ((v1_funct_1 \\ & X5) \wedge (m1_subset_1 \ X5 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (u1_struct_0 \ (\\ & k4_real_ns1 \ X0) \ (u1_struct_0 \ (k4_real_ns1 \ X1)))))) \wedge (\exists X6. \\ & (m1_subset_1 \ X6 \ (u1_struct_0 \ (k4_real_ns1 \ X0)) \wedge ((X2 = X5) \wedge ((\\ & X3 = X6) \wedge (X4 = k3_ndiff_1 \ (k4_real_ns1 \ X0) \ (k4_real_ns1 \ X1) \ X5 \ X6)))))))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge \\
& ((v1_normsp_1\ X1) \wedge (l1_normsp_1\ X1))) \Rightarrow ((X1 = k4_real_ns1\ X0) \Leftrightarrow \\
& ((u1_struct_0\ X1 = k1_euclid\ X0) \wedge ((k4_struct_0\ X1 = k5_euclid\ X0) \wedge \\
& ((r1_funct_2\ (k2_zfmisc_1\ (u1_struct_0\ X1)\ (u1_struct_0\ X1)) \\
& (u1_struct_0\ X1)\ (k2_zfmisc_1\ (k1_euclid\ X0)\ (k1_euclid\ X0))\ (\\
& k1_euclid\ X0)\ (u1_algstr_0\ X1)\ (k1_real_ns1\ X0)) \wedge ((r1_funct_2 \\
& (k2_zfmisc_1\ k1_numbers\ (u1_struct_0\ X1))\ (u1_struct_0\ X1)\ (k2_zfmisc_1 \\
& k1_numbers\ (k1_euclid\ X0))\ (k1_euclid\ X0)\ (u1_rlvect_1\ X1)\ (k2_real_ns1 \\
& X0)) \wedge (r1_funct_2\ (u1_struct_0\ X1)\ k1_numbers\ (k1_euclid\ X0)\ k1_numbers \\
& (u1_normsp_0\ X1)\ (k3_real_ns1\ X0))))))
\end{aligned} \tag{10}$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k4_ordinal1) \Rightarrow (v7_ordinal1\ X0) \tag{11}$$

Theorem 1

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