

t19_ndiff_4

(TMT75Cb4DzcZ7SqNB5suGtW1xgmWrFxbwS9P)

October 27, 2020

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 $v1_funct_1 : \iota \Rightarrow o$ 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 $r1_ndiff_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_nfcont_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $v5_rlvect_1 : \iota \Rightarrow o$ be given. Let $v6_rlvect_1 : \iota \Rightarrow o$ be given. Let $v7_rlvect_1 : \iota \Rightarrow o$ be given. Let $v8_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_normsp_0 : \iota \Rightarrow o$ be given. Let $v4_normsp_0 : \iota \Rightarrow o$ be given. Let $v2_normsp_1 : \iota \Rightarrow o$ be given. Let $l1_normsp_1 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_ndiff_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_nfcont_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k4_real_ns1 : \iota \Rightarrow \iota$ be given. Let $v1_normsp_1 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ & ((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 \\ & X0) \wedge ((v3_normsp_0 X0) \wedge ((v4_normsp_0 X0) \wedge ((v2_normsp_1 X0) \wedge \\ & (l1_normsp_1 X0)))))))))) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers (u1_struct_0 \\ & X0)))) \Rightarrow (\forall X2. (m1_subset_1 X2 k1_numbers) \Rightarrow ((r1_ndiff_3 \\ & X0 X1 X2) \Rightarrow (r1_nfcont_3 X0 X1 X2)))) \end{aligned} \tag{1}$$

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.

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

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0. (v7_ordinal1 \ X0) \Rightarrow & ((\neg v2_struct_0 \ (k4_real_ns1 \ X0)) \wedge \\ & ((v13_algstr_0 \ (k4_real_ns1 \ X0)) \wedge ((v2_rlvect_1 \ (k4_real_ns1 \\ & X0)) \wedge ((v3_rlvect_1 \ (k4_real_ns1 \ X0)) \wedge ((v4_rlvect_1 \ (k4_real_ns1 \\ & X0)) \wedge ((v5_rlvect_1 \ (k4_real_ns1 \ X0)) \wedge ((v6_rlvect_1 \ (k4_real_ns1 \\ & X0)) \wedge ((v7_rlvect_1 \ (k4_real_ns1 \ X0)) \wedge ((v8_rlvect_1 \ (k4_real_ns1 \\ & X0)) \wedge ((v3_normsp_0 \ (k4_real_ns1 \ X0)) \wedge ((v4_normsp_0 \ (k4_real_ns1 \\ & X0)) \wedge ((v1_normsp_1 \ (k4_real_ns1 \ X0)) \wedge (v2_normsp_1 \ (k4_real_ns1 \\ & X0))))))))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. ((\neg v1_xboole_0 \ X0) \wedge (v7_ordinal1 \ X0)) \Rightarrow ((\neg v2_struct_0 \ (k4_real_ns1 \ X0)) \wedge ((\neg v7_struct_0 \ (k4_real_ns1 \ X0)) \wedge (v1_normsp_1 \ (k4_real_ns1 \ X0)))) \quad (6)$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \quad (7)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (8)$$

Assume the following.

$$\forall X0. (v7_ordinal1 \ X0) \Rightarrow ((\neg v2_struct_0 \ (k4_real_ns1 \ X0)) \wedge ((v1_normsp_1 \ (k4_real_ns1 \ X0)) \wedge (l1_normsp_1 \ (k4_real_ns1 \ X0)))) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0. (m2_subset_1 \ X0 \ k1_numbers \ k5_numbers) \Rightarrow & (\forall X1. \\ & ((v1_funct_1 \ X1) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k1_numbers \\ & (k1_euclid \ X0)))))) \Rightarrow (\forall X2. (v1_xreal_0 \ X2) \Rightarrow ((r1_nfcont_4 \\ & X0 \ X1 \ X2) \Leftrightarrow (\exists X3. ((v1_funct_1 \ X3) \wedge (m1_subset_1 \ X3 \ (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ k1_numbers \ (u1_struct_0 \ (k4_real_ns1 \ X0)))))) \wedge \\ & ((X1 = X3) \wedge (r1_nfcont_3 \ (k4_real_ns1 \ X0) \ X3 \ X2)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v1_xboole_0 \ X0) \wedge (m2_subset_1 \ X0 \ k1_numbers \ k5_numbers)) \Rightarrow & \\ & (\forall X1. ((v1_funct_1 \ X1) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \\ & k1_numbers \ (k1_euclid \ X0)))))) \Rightarrow (\forall X2. (v1_xreal_0 \ X2) \Rightarrow (\\ & (r1_ndiff_4 \ X0 \ X1 \ X2) \Leftrightarrow (\exists X3. ((v1_funct_1 \ X3) \wedge (m1_subset_1 \\ & X3 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k1_numbers \ (u1_struct_0 \ (k4_real_ns1 \\ & X0)))))) \wedge ((X1 = X3) \wedge (r1_ndiff_3 \ (k4_real_ns1 \ X0) \ X3 \ X2)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (12)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (13)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\ & (\forall X1.((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k1_numbers (k1_euclid X0))))) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_numbers) \Rightarrow \\ & ((r1_ndiff_4 X0 X1 X2) \Rightarrow (r1_nfcont_4 X0 X1 X2)))) \end{aligned}$$