

t46_ndiff_1

(TMYg89JagPeo8uRezEqrpZQ2V8ouTCU9LkQ)

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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 $v1_funct_1 : \iota \Rightarrow o$ 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 $v3_nfcont_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_ndiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_ndiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v13_algstr_0 \\
 & X0) \wedge (v2_rlvect_1 X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge \\
 & ((v5_rlvect_1 X0) \wedge (v6_rlvect_1 X0) \wedge (v7_rlvect_1 X0) \wedge (v8_rlvect_1 \\
 & X0) \wedge (v3_normsp_0 X0) \wedge (v4_normsp_0 X0) \wedge (v2_normsp_1 X0) \wedge \\
 & (l1_normsp_1 X0)))))) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\
 & ((\neg v7_struct_0 X1) \wedge (v13_algstr_0 X1) \wedge (v2_rlvect_1 X1) \wedge (\\
 & v3_rlvect_1 X1) \wedge (v4_rlvect_1 X1) \wedge (v5_rlvect_1 X1) \wedge (v6_rlvect_1 \\
 & X1) \wedge (v7_rlvect_1 X1) \wedge (v8_rlvect_1 X1) \wedge (v3_normsp_0 X1) \wedge \\
 & ((v4_normsp_0 X1) \wedge (v2_normsp_1 X1) \wedge (l1_normsp_1 X1)))))) \Rightarrow \\
 & (\forall X2. ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow (\forall X3. (m1_subset_1 \\
 & X3 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((r2_ndiff_1 X3 X0 X1 X2) \Rightarrow (\\
 & v3_nfcont_1 X3 X0))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge (v2_rlvect_1 X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge \\
& ((v5_rlvect_1 X0) \wedge (v6_rlvect_1 X0) \wedge (v7_rlvect_1 X0) \wedge (v8_rlvect_1 \\
& X0) \wedge (v3_normsp_0 X0) \wedge (v4_normsp_0 X0) \wedge (v2_normsp_1 X0) \wedge \\
& (l1_normsp_1 X0)))))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\
& ((\neg v7_struct_0 X1) \wedge (v13_algstr_0 X1) \wedge (v2_rlvect_1 X1) \wedge (\\
& v3_rlvect_1 X1) \wedge (v4_rlvect_1 X1) \wedge (v5_rlvect_1 X1) \wedge (v6_rlvect_1 \\
& X1) \wedge (v7_rlvect_1 X1) \wedge (v8_rlvect_1 X1) \wedge (v3_normsp_0 X1) \wedge \\
& (v4_normsp_0 X1) \wedge (v2_normsp_1 X1) \wedge (l1_normsp_1 X1)))))) \Rightarrow \\
& (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow (\forall X3.(m1_subset_1 \\
& X3 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((v3_nfcont_1 X3 X0) \Rightarrow ((r2_ndiff_1 \\
& X3 X0 X1 X2) \Leftrightarrow ((r1_tarski X3 (k1_relset_1 (u1_struct_0 X0) X2)) \wedge \\
& (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow ((X4 \in X3) \Rightarrow (r1_ndiff_1 \\
& X0 X1 X2 X4)))))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((\neg v7_struct_0 X1) \wedge \\
& ((v13_algstr_0 X1) \wedge (v2_rlvect_1 X1) \wedge (v3_rlvect_1 X1) \wedge (v4_rlvect_1 \\
& X1) \wedge (v5_rlvect_1 X1) \wedge (v6_rlvect_1 X1) \wedge (v7_rlvect_1 X1) \wedge \\
& ((v8_rlvect_1 X1) \wedge (v3_normsp_0 X1) \wedge (v4_normsp_0 X1) \wedge (v2_normsp_1 \\
& X1) \wedge (l1_normsp_1 X1)))))) \Rightarrow (\forall X2.((\neg v2_struct_0 \\
& X2) \wedge ((\neg v7_struct_0 X2) \wedge (v13_algstr_0 X2) \wedge (v2_rlvect_1 X2) \wedge \\
& (v3_rlvect_1 X2) \wedge (v4_rlvect_1 X2) \wedge (v5_rlvect_1 X2) \wedge (v6_rlvect_1 \\
& X2) \wedge (v7_rlvect_1 X2) \wedge (v8_rlvect_1 X2) \wedge (v3_normsp_0 X2) \wedge \\
& (v4_normsp_0 X2) \wedge (v2_normsp_1 X2) \wedge (l1_normsp_1 X2)))))) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X1) (u1_struct_0 X2)))))) \Rightarrow ((r2_ndiff_1 X0 X1 X2 X3) \Rightarrow \\
& (m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 X1))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1_tarski X0 X1) \wedge (r1_tarski X1 X2)) \Rightarrow (r1_tarski X0 X2) \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((\neg v7_struct_0 X1) \wedge \\
& ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\
& X1) \wedge ((v5_rlvect_1 X1) \wedge ((v6_rlvect_1 X1) \wedge ((v7_rlvect_1 X1) \wedge \\
& ((v8_rlvect_1 X1) \wedge ((v3_normsp_0 X1) \wedge ((v4_normsp_0 X1) \wedge ((v2_normsp_1 \\
& X1) \wedge (l1_normsp_1 X1)))))))))) \Rightarrow (\forall X2. ((\neg v2_struct_0 \\
& X2) \wedge ((\neg v7_struct_0 X2) \wedge ((v13_algstr_0 X2) \wedge ((v2_rlvect_1 X2) \wedge \\
& ((v3_rlvect_1 X2) \wedge ((v4_rlvect_1 X2) \wedge ((v5_rlvect_1 X2) \wedge ((v6_rlvect_1 \\
& X2) \wedge ((v7_rlvect_1 X2) \wedge ((v8_rlvect_1 X2) \wedge ((v3_normsp_0 X2) \wedge \\
& ((v4_normsp_0 X2) \wedge ((v2_normsp_1 X2) \wedge (l1_normsp_1 X2)))))))))) \Rightarrow \\
& (\forall X3. ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X1) (u1_struct_0 X2)))))) \Rightarrow ((r2_ndiff_1 X0 X1 X2 X3) \Leftrightarrow \\
& ((r1_tarski X0 (k1_relset_1 (u1_struct_0 X1) X3)) \wedge (\forall X4. \\
& (m1_subset_1 X4 (u1_struct_0 X1)) \Rightarrow ((X4 \in X0) \Rightarrow (r1_ndiff_1 X1 X2 \\
& (k2_partfun1 (u1_struct_0 X1) (u1_struct_0 X2) X3 X0 X4))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \tag{6}$$

Theorem 1

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((\neg v7_struct_0 X1) \wedge \\
& ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\
& X1) \wedge ((v5_rlvect_1 X1) \wedge ((v6_rlvect_1 X1) \wedge ((v7_rlvect_1 X1) \wedge \\
& ((v8_rlvect_1 X1) \wedge ((v3_normsp_0 X1) \wedge ((v4_normsp_0 X1) \wedge ((v2_normsp_1 \\
& X1) \wedge (l1_normsp_1 X1)))))))))) \Rightarrow (\forall X2. ((\neg v2_struct_0 \\
& X2) \wedge ((\neg v7_struct_0 X2) \wedge ((v13_algstr_0 X2) \wedge ((v2_rlvect_1 X2) \wedge \\
& ((v3_rlvect_1 X2) \wedge ((v4_rlvect_1 X2) \wedge ((v5_rlvect_1 X2) \wedge ((v6_rlvect_1 \\
& X2) \wedge ((v7_rlvect_1 X2) \wedge ((v8_rlvect_1 X2) \wedge ((v3_normsp_0 X2) \wedge \\
& ((v4_normsp_0 X2) \wedge ((v2_normsp_1 X2) \wedge (l1_normsp_1 X2)))))))))) \Rightarrow \\
& (\forall X3. ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X2) (u1_struct_0 X1)))))) \Rightarrow (\forall X4. (m1_subset_1 \\
& X4 (k1_zfmisc_1 (u1_struct_0 X2)) \Rightarrow (((v3_nfcont_1 X4 X2) \wedge ((r2_ndiff_1 \\
& X0 X2 X1 X3) \wedge (r1_tarski X4 X0)) \Rightarrow (r2_ndiff_1 X4 X2 X1 X3))))))
\end{aligned}$$