

t50_fintopo6

(TMQrkjXYMEX9Kfo4xWP24KAExqY8wD17cV9)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v3_fintopo6 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_fintopo6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_fintopo6 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
 & (m2_finseq_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
 & (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
 & (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
 & (\neg(v2_fintopo6 X1 X0) \wedge (r1_tarski (k2_relset_1 (u1_struct_0 \\
 & X0) X1) X2) \wedge ((k1_funct_1 X1 np_1 = X3) \wedge ((k1_funct_1 X1 (k3_finseq_1 \\
 & X1) = X4) \wedge (\forall X5.(m2_finseq_1 X5 (u1_struct_0 X0)) \Rightarrow (\neg(v2_fintopo6 \\
 & X5 X0) \wedge ((r1_tarski (k2_relset_1 (u1_struct_0 X0) X5) X2) \wedge ((k1_funct_1 \\
 & X5 np_1 = X3) \wedge (k1_funct_1 X5 (k3_finseq_1 X5) = X4) \wedge (\forall X6. \\
 & (m2_finseq_1 X6 (u1_struct_0 X0)) \Rightarrow (((v2_fintopo6 X6 X0) \wedge (r1_tarski \\
 & (k2_relset_1 (u1_struct_0 X0) X6) X2) \wedge ((k1_funct_1 X6 np_1 = X3) \wedge \\
 & (k1_funct_1 X6 (k3_finseq_1 X6) = X4)))) \Rightarrow (r1_xxreal_0 (k3_finseq_1 \\
 & X5) (k3_finseq_1 X6))))))))))))))
 \end{aligned}
 \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
& (m2_finseq_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
& ((r3_fintopo6 X0 X1 X2 X3 X4) \Leftrightarrow ((v2_fintopo6 X1 X0) \wedge ((r1_tarski \\
& (k2_relset_1 (u1_struct_0 X0) X1) X2) \wedge ((k1_funct_1 X1 np_1 = X3) \wedge \\
& ((k1_funct_1 X1 (k3_finseq_1 X1) = X4) \wedge (\forall X5.(m2_finseq_1 \\
& X5 (u1_struct_0 X0)) \Rightarrow (((v2_fintopo6 X5 X0) \wedge ((r1_tarski (k2_relset_1 \\
& (u1_struct_0 X0) X5) X2) \wedge ((k1_funct_1 X5 np_1 = X3) \wedge (k1_funct_1 \\
& X5 (k3_finseq_1 X5) = X4)))))) \Rightarrow (r1_xxreal_0 (k3_finseq_1 X1) (k3_finseq_1 \\
& X5))))))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((v3_fintopo6 \\
& X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\neg(X2 \in X1) \wedge ((X3 \in X1) \wedge (\forall X4. \\
& (m2_finseq_1 X4 (u1_struct_0 X0)) \Rightarrow (\neg(v2_fintopo6 X4 X0) \wedge ((r1_tarski \\
& (k2_relset_1 (u1_struct_0 X0) X4) X1) \wedge ((k1_funct_1 X4 np_1 = X2) \wedge \\
& (k1_funct_1 X4 (k3_finseq_1 X4) = X3))))))))))
\end{aligned} \tag{3}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((v3_fintopo6 \\
& X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\neg(X2 \in X1) \wedge ((X3 \in X1) \wedge (\forall X4. \\
& (m2_finseq_1 X4 (u1_struct_0 X0)) \Rightarrow (\neg r3_fintopo6 X0 X4 X1 X2 X3))))))
\end{aligned}$$