

l7_gobrd12

(TMXZnfXEhtjFJ9JzzhhsbuXvqjYHiTAXtd)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v3_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_6 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $v1_topreal1 : \iota \Rightarrow o$ be given. Let $v2_topreal1 : \iota \Rightarrow o$ be given. Let $v1_goboard5 : \iota \Rightarrow o$ be given. Let $v2_goboard5 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_connsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_connsp_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_goboard9 : \iota \Rightarrow \iota$ be given. Let $v3_connsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_goboard9 : \iota \Rightarrow \iota$ be given. Let $k1_goboard9 : \iota \Rightarrow \iota$ be given. Let $k4_finseq_5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_5 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ 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 $k5_numbers : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge (\neg v3_funct_1 X0) \wedge (v1_finseq_6 \\ & X0 (u1_struct_0 (k15_euclid np_2))) \wedge (v1_topreal1 X0) \wedge (v2_topreal1 \\ & X0) \wedge (v1_goboard5 X0) \wedge (v2_goboard5 X0) \wedge (m2_finseq_1 X0 (u1_struct_0 \\ & (k15_euclid np_2)))))) \Rightarrow (k3_goboard9 X0 = k2_goboard9 (k1_goboard9 \\ & X0)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (k3_topreal1 np_2 X0 = k3_topreal1 np_2 (k4_finseq_5 (u1_struct_0 \\ & (k15_euclid np_2)) X0)) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1.(m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \tag{3}$$

Assume the following.

$$\forall X0. \forall X1.(m1_finseq_1 X1 X0) \Rightarrow (k4_finseq_5 X0 X1 = k3_finseq_5 X1) \tag{4}$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_finseq_6 X0 (u1_struct_0 (k15_euclid np_2))) \wedge ((v1_topreal1 X0) \wedge ((v2_topreal1 X0) \wedge (v1_goboard5 X0) \wedge ((v2_goboard5 X0) \wedge (m1_finseq_1 X0 (u1_struct_0 (k15_euclid np_2)))))))))) \Rightarrow (k1_goboard9 X0 = k3_finseq_5 X0) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge ((\neg v3_funct_1 X0) \wedge ((v1_finseq_6 X0 (u1_struct_0 (k15_euclid np_2))) \wedge ((v1_topreal1 X0) \wedge ((v2_topreal1 X0) \wedge ((v1_goboard5 X0) \wedge ((v2_goboard5 X0) \wedge (m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2)))))))))) \Rightarrow ((v2_connsp_1 (k2_pre_topc (k1_pre_topc (k15_euclid np_2) (k3_subset_1 (u1_struct_0 (k15_euclid np_2)) (k3_topreal1 np_2 X0))) (k4_connsp_3 (k15_euclid np_2) (k2_goboard9 X0) (k3_subset_1 (u1_struct_0 (k15_euclid np_2)) (k3_topreal1 np_2 X0)))) (k1_pre_topc (k15_euclid np_2) (k3_subset_1 (u1_struct_0 (k15_euclid np_2)) (k3_topreal1 np_2 X0)))) \wedge ((k4_connsp_3 (k15_euclid np_2) (k2_goboard9 X0) (k3_subset_1 (u1_struct_0 (k15_euclid np_2)) (k3_topreal1 np_2 X0))) = k2_goboard9 X0) \wedge (v3_connsp_1 (k4_connsp_3 (k15_euclid np_2) (k2_goboard9 X0) (k3_subset_1 (u1_struct_0 (k15_euclid np_2)) (k3_topreal1 np_2 X0))) (k1_pre_topc (k15_euclid np_2) (k3_subset_1 (u1_struct_0 (k15_euclid np_2)) (k3_topreal1 np_2 X0)))))) \quad (6)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((\neg v3_funct_1 X0) \wedge (v1_finseq_1 X0)))) \Rightarrow ((v1_relat_1 (k3_finseq_5 X0)) \wedge ((v1_funct_1 (k3_finseq_5 X0)) \wedge ((\neg v3_funct_1 (k3_finseq_5 X0)) \wedge (v1_finseq_1 (k3_finseq_5 X0)))))) \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Rightarrow ((v1_funct_1 X1) \wedge ((v1_finseq_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))))) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. (m1_finseq_1 X1 X0) \Rightarrow ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \quad (9)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_finseq_6 X0 (u1_struct_0 \\
& (k15_euclid np_2))) \wedge ((v1_topreal1 X0) \wedge ((v2_topreal1 X0) \wedge \\
& (v1_goboard5 X0) \wedge ((v2_goboard5 X0) \wedge (m1_finseq_1 X0 (u1_struct_0 \\
& (k15_euclid np_2)))))) \Rightarrow ((\neg v1_xboole_0 (k1_goboard9 X0)) \wedge \\
& ((v1_finseq_6 (k1_goboard9 X0) (u1_struct_0 (k15_euclid np_2))) \wedge \\
& ((v1_topreal1 (k1_goboard9 X0)) \wedge ((v2_topreal1 (k1_goboard9 \\
& X0)) \wedge ((v1_goboard5 (k1_goboard9 X0)) \wedge ((v2_goboard5 (k1_goboard9 \\
& X0)) \wedge (m2_finseq_1 (k1_goboard9 X0) (u1_struct_0 (k15_euclid \\
& np_2))))))))))
\end{aligned} \tag{10}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge ((\neg v3_funct_1 X0) \wedge ((v1_finseq_6 \\
& X0 (u1_struct_0 (k15_euclid np_2))) \wedge ((v1_topreal1 X0) \wedge ((v2_topreal1 \\
& X0) \wedge ((v1_goboard5 X0) \wedge ((v2_goboard5 X0) \wedge (m2_finseq_1 X0 (u1_struct_0 \\
& (k15_euclid np_2)))))) \Rightarrow ((v2_connsp_1 (k2_pre_topc (k1_pre_topc \\
& (k15_euclid np_2) (k3_subset_1 (u1_struct_0 (k15_euclid np_2)) \\
& (k3_topreal1 np_2 X0))) (k4_connsp_3 (k15_euclid np_2) (k3_goboard9 \\
& X0) (k3_subset_1 (u1_struct_0 (k15_euclid np_2)) (k3_topreal1 \\
& np_2 X0))) (k1_pre_topc (k15_euclid np_2) (k3_subset_1 (u1_struct_0 \\
& (k15_euclid np_2) (k3_topreal1 np_2 X0)))) \wedge ((k4_connsp_3 \\
& (k15_euclid np_2) (k3_goboard9 X0) (k3_subset_1 (u1_struct_0 \\
& (k15_euclid np_2) (k3_topreal1 np_2 X0)) = k3_goboard9 X0) \wedge \\
& (v3_connsp_1 (k4_connsp_3 (k15_euclid np_2) (k3_goboard9 X0) \\
& (k3_subset_1 (u1_struct_0 (k15_euclid np_2)) (k3_topreal1 np_2 \\
& X0))) (k1_pre_topc (k15_euclid np_2) (k3_subset_1 (u1_struct_0 \\
& (k15_euclid np_2) (k3_topreal1 np_2 X0))))))
\end{aligned}$$