

t12_goboard1 (TMFFDmgsNZofXVPFWcaY- DiGni3Z8SaPKV9)

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Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v3_relat_1 : \iota \Rightarrow o$ be given. Let $v1_matrix_1 : \iota \Rightarrow o$ be given. Let $v2_goboard1 : \iota \Rightarrow o$ be given. Let $v3_goboard1 : \iota \Rightarrow o$ be given. Let $v4_goboard1 : \iota \Rightarrow o$ be given. Let $v5_goboard1 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ 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 $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_matrix_1 : \iota \Rightarrow \iota$ be given. Let $k4_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k3_goboard1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k3_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_finseq_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k6_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v5_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l1_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
& (m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow (\forall X2. ((\neg v3_relat_1 \\
& X2) \wedge ((v1_matrix_1 X2) \wedge ((v2_goboard1 X2) \wedge ((v3_goboard1 X2) \wedge \\
& ((v4_goboard1 X2) \wedge ((v5_goboard1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\
& (u1_struct_0 (k15_euclid np_2)))))))))) \Rightarrow (((X0 \in k2_finseq_1 \\
& (k1_matrix_1 X2)) \wedge (X1 \in k4_finseq_1 X2)) \Rightarrow ((r1_xxreal_0 (k1_matrix_1 \\
& X2) np_1) \vee (k8_matrix_1 (u1_struct_0 (k15_euclid np_2)) (k3_goboard1 \\
& X2 X0) X1 = k2_finseq_3 X0 (k8_matrix_1 (u1_struct_0 (k15_euclid \\
& np_2)) X2 X1))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\
& ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Leftrightarrow(m1_finseq_1 X1 X0) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(((v1_matrix_1 X1)\wedge(m1_finseq_1 X1 (k3_finseq_2 X0)))\wedge(v7_ordinal1 X2)))\Rightarrow(k8_matrix_1 X0 X1 X2 = k6_matrix_1 X0 X1 X2) \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (7)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow((\neg v2_struct_0 (k15_euclid X0))\wedge(v5_rltopsp1 (k15_euclid X0))) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_struct_0 X0))\Rightarrow(\neg v1_xboole_0 (u1_struct_0 X0)) \quad (9)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (10)$$

Assume the following.

$$\forall X0.(l1_rltopsp1 X0)\Rightarrow((l1_rlvect_1 X0)\wedge(l1_pre_topc X0)) \quad (11)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0)\Rightarrow(l1_struct_0 X0) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(((v1_matrix_1 X1)\wedge(m1_finseq_1 X1 (k3_finseq_2 X0)))\wedge(v7_ordinal1 X2)))\Rightarrow(m2_finseq_1 (k6_matrix_1 X0 X1 X2) X0) \quad (13)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v3_relat_1 \ X0) \wedge ((v1_matrix_1 \ X0) \wedge \\ & ((v2_goboard1 \ X0) \wedge ((v3_goboard1 \ X0) \wedge ((v4_goboard1 \ X0) \wedge ((v5_goboard1 \\ & X0) \wedge (m1_finseq_1 \ X0 \ (k3_finseq_2 \ (u1_struct_0 \ (k15_euclid \ np_2)))))))))) \wedge \\ & (m1_subset_1 \ X1 \ k5_numbers)) \Rightarrow ((\neg v3_relat_1 \ (k3_goboard1 \ X0 \ X1)) \wedge \\ & ((v1_matrix_1 \ (k3_goboard1 \ X0 \ X1)) \wedge ((v2_goboard1 \ (k3_goboard1 \\ & X0 \ X1)) \wedge ((v3_goboard1 \ (k3_goboard1 \ X0 \ X1)) \wedge ((v4_goboard1 \ (k3_goboard1 \\ & X0 \ X1)) \wedge ((v5_goboard1 \ (k3_goboard1 \ X0 \ X1)) \wedge (m2_finseq_1 \ (k3_goboard1 \\ & X0 \ X1) \ (k3_finseq_2 \ (u1_struct_0 \ (k15_euclid \ np_2)))))))))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0. (v7_ordinal1 \ X0) \Rightarrow ((v5_rltopsp1 \ (k15_euclid \ X0)) \wedge (l1_rltopsp1 \ (k15_euclid \ X0))) \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 \ X0) \Rightarrow (\forall X1. ((v1_matrix_1 \ X1) \wedge \\ & (m2_finseq_1 \ X1 \ (k3_finseq_2 \ X0))) \Rightarrow (\forall X2. (v7_ordinal1 \\ & X2) \Rightarrow (\forall X3. (m2_finseq_1 \ X3 \ X0) \Rightarrow ((X3 = k6_matrix_1 \ X0 \ X1 \ X2) \Leftrightarrow \\ & ((k3_finseq_1 \ X3 = k1_matrix_1 \ X1) \wedge (\forall X4. (v7_ordinal1 \ X4) \Rightarrow \\ & ((X4 \in k2_finseq_1 \ (k1_matrix_1 \ X1)) \Rightarrow (k1_funct_1 \ X3 \ X4 = k3_matrix_1 \\ & X0 \ X1 \ X2 \ X4))))))) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0. (m1_subset_1 \ X0 \ k4_ordinal1) \Rightarrow (v7_ordinal1 \ X0) \quad (18)$$

Theorem 1

$$\begin{aligned} & \forall X0. (m2_subset_1 \ X0 \ k1_numbers \ k5_numbers) \Rightarrow (\forall X1. \\ & (m2_subset_1 \ X1 \ k1_numbers \ k5_numbers) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 \ k1_numbers \ k5_numbers) \Rightarrow (\forall X3. ((\neg v3_relat_1 \ X3) \wedge ((v1_matrix_1 \\ & X3) \wedge ((v2_goboard1 \ X3) \wedge ((v3_goboard1 \ X3) \wedge ((v4_goboard1 \ X3) \wedge \\ & ((v5_goboard1 \ X3) \wedge (m2_finseq_1 \ X3 \ (k3_finseq_2 \ (u1_struct_0 \\ & (k15_euclid \ np_2)))))))))) \Rightarrow (((X0 \in k2_finseq_1 \ (k1_matrix_1 \\ & X3)) \wedge ((X1 \in k4_finseq_1 \ X3) \wedge (X2 \in k2_finseq_1 \ (k1_matrix_1 \ (k3_goboard1 \\ & X3 \ X0)))))) \Rightarrow ((r1_xxreal_0 \ (k1_matrix_1 \ X3) \ np_1) \vee (k3_matrix_1 \\ & (u1_struct_0 \ (k15_euclid \ np_2)) \ (k3_goboard1 \ X3 \ X0) \ X1 \ X2 = k1_funct_1 \\ & (k2_finseq_3 \ X0 \ (k8_matrix_1 \ (u1_struct_0 \ (k15_euclid \ np_2)) \\ & X3 \ X1)) \ X2)))))) \end{aligned}$$