

t9_goboard1

(TMWGT6xQq8dHvhKwzA5hpfokHkFjY2Kn9Y4)

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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 $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k8_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_goboard1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_finseq_3 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ & (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 \\ & X1))) \Rightarrow ((k3_finseq_1 X0 = k3_finseq_1 X1) \Leftrightarrow (k1_relset_1 k5_numbers \\ & X0 = k1_relset_1 k5_numbers X1))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_matrix_1 X1) \wedge \\ & (m2_finseq_1 X1 (k3_finseq_2 X0))) \Rightarrow (\forall X2.(v7_ordinal1 \\ & X2) \Rightarrow ((X2 \in k4_finseq_1 X1) \Rightarrow (k1_funct_1 X1 X2 = k8_matrix_1 X0 X1 \\ & X2)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & ((v2_xreal_0 \ np_2) \wedge (m2_subset_1 \ np_2 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_2 \ k5_numbers) \wedge (m1_subset_1 \ np_2 \ k1_numbers)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 \ X0) \wedge ((\neg v1_xboole_0 \ X1) \wedge \\ & (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & \ X2 \ X0 \ X1) \Leftrightarrow (m1_subset_1 \ X2 \ X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 \ X1 \ X0) \Leftrightarrow (m1_finseq_1 \ X1 \ X0) \quad (5)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 \ X0) \wedge ((v1_funct_1 \ X0) \wedge (v1_finseq_1 \ X0))) \Rightarrow \\ & (k4_finseq_1 \ X0 = k9_xtuple_0 \ X0) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 \ X1) \wedge (v4_relat_1 \ X1 \ X0)) \Rightarrow (\\ & \ k1_relset_1 \ X0 \ X1 = k9_xtuple_0 \ X1) \end{aligned} \quad (8)$$

Assume the following.

$$(\neg v1_xboole_0 \ k4_ordinal1) \wedge (v3_ordinal1 \ k4_ordinal1) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v7_ordinal1 \ X0) \Rightarrow ((\neg v2_struct_0 \ (k15_euclid \ X0)) \wedge \\ & (v5_rltopsp1 \ (k15_euclid \ X0))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 \ X0) \wedge (l1_struct_0 \ X0)) \Rightarrow (\neg v1_xboole_0 \\ & \ (u1_struct_0 \ X0)) \end{aligned} \quad (11)$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m2_finseq_1 \ X1 \ X0) \Rightarrow ((v1_funct_1 \ X1) \wedge (\\ & (v1_finseq_1 \ X1) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \\ & \ X0)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge(v1_funct_1 X1)\wedge(v1_finseq_1 X1)) \quad (14)$$

Assume the following.

$$\forall X0.(l1_rltopsp1 X0)\Rightarrow((l1_rlvect_1 X0)\wedge(l1_pre_topc X0)) \quad (15)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0)\Rightarrow(l1_struct_0 X0) \quad (16)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (17)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.(((\neg v3_relat_1 X0)\wedge((v1_matrix_1 X0)\wedge \\ &((v2_goboard1 X0)\wedge((v3_goboard1 X0)\wedge((v4_goboard1 X0)\wedge((v5_goboard1 \\ &X0)\wedge(m1_finseq_1 X0 (k3_finseq_2 (u1_struct_0 (k15_euclid np_2))))))))))\wedge \\ &(m1_subset_1 X1 k5_numbers))\Rightarrow((\neg v3_relat_1 (k3_goboard1 X0 X1))\wedge \\ &((v1_matrix_1 (k3_goboard1 X0 X1))\wedge((v2_goboard1 (k3_goboard1 \\ &X0 X1))\wedge((v3_goboard1 (k3_goboard1 X0 X1))\wedge((v4_goboard1 (k3_goboard1 \\ &X0 X1))\wedge((v5_goboard1 (k3_goboard1 X0 X1))\wedge(m2_finseq_1 (k3_goboard1 \\ &X0 X1) (k3_finseq_2 (u1_struct_0 (k15_euclid np_2)))))))))) \quad (18) \end{aligned}$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow((v5_rltopsp1 (k15_euclid X0))\wedge(l1_rltopsp1 (k15_euclid X0))) \quad (19)$$

Assume the following.

$$\begin{aligned} &\forall X0.(((\neg v3_relat_1 X0)\wedge((v1_matrix_1 X0)\wedge((v2_goboard1 \\ &X0)\wedge((v3_goboard1 X0)\wedge((v4_goboard1 X0)\wedge((v5_goboard1 X0)\wedge \\ &(m2_finseq_1 X0 (k3_finseq_2 (u1_struct_0 (k15_euclid np_2))))))))))\Rightarrow \\ &(\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers)\Rightarrow((X1 \in k2_finseq_1 \\ &(k1_matrix_1 X0))\Rightarrow((r1_xxreal_0 (k1_matrix_1 X0) np_1)\vee(\forall X2. \\ &((\neg v3_relat_1 X2)\wedge((v1_matrix_1 X2)\wedge((v2_goboard1 X2)\wedge((v3_goboard1 \\ &X2)\wedge((v4_goboard1 X2)\wedge((v5_goboard1 X2)\wedge(m2_finseq_1 X2 (k3_finseq_2 \\ &(u1_struct_0 (k15_euclid np_2))))))))))\Rightarrow((X2 = k3_goboard1 \\ &X0 X1)\Leftrightarrow((k3_finseq_1 X2 = k3_finseq_1 X0)\wedge(\forall X3.(m2_subset_1 \\ &X3 k1_numbers k5_numbers)\Rightarrow((X3 \in k4_finseq_1 X0)\Rightarrow(k1_funct_1 \\ &X2 X3 = k2_finseq_3 X1 (k8_matrix_1 (u1_struct_0 (k15_euclid np_2)) \\ &X0 X3)))))))))) \quad (20) \end{aligned}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (21)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 X0) \wedge \\ (v1_finseq_1 X0)))) \end{aligned} \quad (22)$$

Theorem 1

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