

t17_goboard9

(TMQ9MWoq4icg3oioJVHCAEUeaKbfMhzgNGV)

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Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_matrix_1 : \iota \Rightarrow \iota$ be given. Let $v1_convex1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_tops_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_goboard5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $k1_goboard5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_goboard5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ 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 $v5_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_convex1 X0 (k15_euclid np_2)) \wedge (m1_subset_1 \\ & \quad X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))))) \Rightarrow (\forall X1. \\ & ((v1_convex1 X1 (k15_euclid np_2)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & \quad (u1_struct_0 (k15_euclid np_2)))))) \Rightarrow (v1_convex1 (k9_subset_1 \\ & \quad (u1_struct_0 (k15_euclid np_2)) X0 X1) (k15_euclid np_2))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (k9_subset_1 \\ & (u1_struct_0 X0) (k1_tops_1 X0 X1) (k1_tops_1 X0 X2) = k1_tops_1 \\ & \quad X0 (k9_subset_1 (u1_struct_0 X0) X1 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & ((\neg v3_relat_1 X1) \wedge ((v1_matrix_1 X1) \wedge ((v2_goboard1 X1) \wedge ((v3_goboard1 \\ & X1) \wedge ((v4_goboard1 X1) \wedge ((v5_goboard1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 \\ & (u1_struct_0 (k15_euclid np_2)))))))))) \Rightarrow ((r1_xxreal_0 X0 (\\ & k3_finseq_1 X1)) \Rightarrow (v1_convex1 (k1_tops_1 (k15_euclid np_2) (\\ & k1_goboard5 X1 X0)) (k15_euclid np_2)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & ((\neg v3_relat_1 X1) \wedge ((v1_matrix_1 X1) \wedge ((v2_goboard1 X1) \wedge ((v3_goboard1 \\ & X1) \wedge ((v4_goboard1 X1) \wedge ((v5_goboard1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 \\ & (u1_struct_0 (k15_euclid np_2)))))))))) \Rightarrow ((r1_xxreal_0 X0 (\\ & k1_matrix_1 X1)) \Rightarrow (v1_convex1 (k1_tops_1 (k15_euclid np_2) (\\ & k2_goboard5 X1 X0)) (k15_euclid np_2)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (7)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (8)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. (v7_ordinal1 X0) \Rightarrow ((v2_pre_topc (k15_euclid X0)) \wedge \\ & ((v13_algstr_0 (k15_euclid X0)) \wedge ((v2_rlvect_1 (k15_euclid X0)) \wedge \\ & ((v3_rlvect_1 (k15_euclid X0)) \wedge ((v4_rlvect_1 (k15_euclid X0)) \wedge \\ & ((v5_rlvect_1 (k15_euclid X0)) \wedge ((v6_rlvect_1 (k15_euclid X0)) \wedge \\ & ((v7_rlvect_1 (k15_euclid X0)) \wedge ((v8_rlvect_1 (k15_euclid X0)) \wedge \\ & (v5_rltopsp1 (k15_euclid X0)))))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \quad (11)$$

Assume the following.

$$\forall X0.(l1_rltopsp1 \ X0) \Rightarrow ((l1_rlvect_1 \ X0) \wedge (l1_pre_topc \ X0)) \quad (12)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1_matrix_1 \ X0) \wedge (m1_finseq_1 \ X0 \ (k3_finseq_2 \\ & (u1_struct_0 \ (k15_euclid \ np_2)))))) \wedge (v7_ordinal1 \ X1)) \Rightarrow (m1_subset_1 \\ & (k2_goboard5 \ X0 \ X1) \ (k1_zfmisc_1 \ (u1_struct_0 \ (k15_euclid \ np_2)))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((l1_pre_topc \ X0) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \\ & (u1_struct_0 \ X0)))))) \Rightarrow (m1_subset_1 \ (k1_tops_1 \ X0 \ X1) \ (k1_zfmisc_1 \\ & (u1_struct_0 \ X0))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1_matrix_1 \ X0) \wedge (m1_finseq_1 \ X0 \ (k3_finseq_2 \\ & (u1_struct_0 \ (k15_euclid \ np_2)))))) \wedge (v7_ordinal1 \ X1)) \Rightarrow (m1_subset_1 \\ & (k1_goboard5 \ X0 \ X1) \ (k1_zfmisc_1 \ (u1_struct_0 \ (k15_euclid \ np_2)))) \end{aligned} \quad (16)$$

Assume the following.

$$\forall X0.(v7_ordinal1 \ X0) \Rightarrow ((v5_rltopsp1 \ (k15_euclid \ X0)) \wedge (l1_rltopsp1 \ (k15_euclid \ X0))) \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.(((v1_matrix_1 \ X0) \wedge (m2_finseq_1 \ X0 \ (k3_finseq_2 \ (u1_struct_0 \\ & (k15_euclid \ np_2)))))) \Rightarrow (\forall X1.(v7_ordinal1 \ X1) \Rightarrow (\forall X2. \\ & (v7_ordinal1 \ X2) \Rightarrow (k3_goboard5 \ X0 \ X1 \ X2 = k9_subset_1 \ (u1_struct_0 \\ & (k15_euclid \ np_2)) \ (k1_goboard5 \ X0 \ X1) \ (k2_goboard5 \ X0 \ X2)))) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.(m1_subset_1 \ X0 \ k4_ordinal1) \Rightarrow (v7_ordinal1 \ X0) \quad (19)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m2_subset_1 \ X0 \ k1_numbers \ k5_numbers) \Rightarrow (\forall X1. \\ & (m2_subset_1 \ X1 \ k1_numbers \ k5_numbers) \Rightarrow (\forall X2.((\neg v3_relat_1 \\ & X2) \wedge ((v1_matrix_1 \ X2) \wedge ((v2_goboard1 \ X2) \wedge ((v3_goboard1 \ X2) \wedge \\ & ((v4_goboard1 \ X2) \wedge ((v5_goboard1 \ X2) \wedge (m2_finseq_1 \ X2 \ (k3_finseq_2 \\ & (u1_struct_0 \ (k15_euclid \ np_2)))))))))) \Rightarrow (((r1_xxreal_0 \ X0 \\ & (k3_finseq_1 \ X2)) \wedge (r1_xxreal_0 \ X1 \ (k1_matrix_1 \ X2))) \Rightarrow (v1_convex1 \\ & (k1_tops_1 \ (k15_euclid \ np_2) \ (k3_goboard5 \ X2 \ X0 \ X1)) \ (k15_euclid \\ & np_2)))))) \end{aligned}$$