

t12_goboard5 (TMaXY- ixFvzvUJa1VmHGYUjJ3MH6S88mkQbA)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_goboard5 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k4_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_matrix_1 : \iota \Rightarrow \iota$ be given. Let $k2_goboard2 : \iota \Rightarrow \iota$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18_complex1 : \iota \Rightarrow \iota$ be given. Let $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k16_complex1 : \iota \Rightarrow \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_matrix_1 : \iota \Rightarrow o$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $r1_goboard1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg(X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 k1_numbers) \wedge (v1_xreal_0 X1)) \Rightarrow (k7_real_1 X0 X1 = k2_xcmplx_0 X0 X1) \quad (4)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (5)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k18_complex1 X0 = k16_complex1 X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (v1_xreal_0 (k6_xcmplx_0 X0 X1)) \quad (7)$$

Assume the following.

$$v6_membered k4_ordinal1 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0) \Rightarrow ((v1_funct_1 X1) \wedge (v1_finseq_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0) \Rightarrow ((v1_relat_1 X1) \wedge (v1_funct_1 X1) \wedge (v1_finseq_1 X1)) \quad (10)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (11)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (m1_subset_1 (k4_finseq_1 X0) (k1_zfmisc_1 k5_numbers)) \quad (12)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (m1_finseq_1 X0 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow ((v1_matrix_1 (k2_goboard2 X0)) \wedge (m2_finseq_1 (k2_goboard2 X0) (k3_finseq_2 (u1_struct_0 (k15_euclid np_2)))))) \quad (13)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (m1_subset_1 (k18_complex1 X0) k1_numbers) \quad (14)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (v1_xreal_0 (k16_complex1 X0)) \quad (15)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (m2_finseq_1 X1 X0) \Rightarrow (\forall X2. ((v1_matrix_1 \\
& X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 X0))) \Rightarrow ((r1_goboard1 X0 X1 X2) \Leftrightarrow \\
& ((\forall X3. (m2_subset_1 X3 k1_numbers k5_numbers) \Rightarrow (\neg(X3 \in k4_finseq_1 \\
& X1) \wedge (\forall X4. (m2_subset_1 X4 k1_numbers k5_numbers) \Rightarrow (\forall X5. \\
& (m2_subset_1 X5 k1_numbers k5_numbers) \Rightarrow (\neg(k4_tarski X4 X5 \in k2_matrix_1 \\
& X2) \wedge (k7_partfun1 X0 X1 X3 = k3_matrix_1 X0 X2 X4 X5)))))) \wedge (\forall X3. \\
& (m2_subset_1 X3 k1_numbers k5_numbers) \Rightarrow (((X3 \in k4_finseq_1 X1) \wedge \\
& (k2_nat_1 X3 np_1) \in k4_finseq_1 X1)) \Rightarrow (\forall X4. (m2_subset_1 \\
& X4 k1_numbers k5_numbers) \Rightarrow (\forall X5. (m2_subset_1 X5 k1_numbers \\
& k5_numbers) \Rightarrow (\forall X6. (m2_subset_1 X6 k1_numbers k5_numbers) \Rightarrow \\
& (\forall X7. (m2_subset_1 X7 k1_numbers k5_numbers) \Rightarrow (((k4_tarski \\
& X4 X5 \in k2_matrix_1 X2) \wedge ((k4_tarski X6 X7 \in k2_matrix_1 X2) \wedge ((k7_partfun1 \\
& X0 X1 X3 = k3_matrix_1 X0 X2 X4 X5) \wedge (k7_partfun1 X0 X1 (k2_nat_1 X3 \\
& np_1) = k3_matrix_1 X0 X2 X6 X7)))))) \Rightarrow (k2_xcmplx_0 (k18_complex1 \\
& (k6_xcmplx_0 X4 X6)) (k18_complex1 (k6_xcmplx_0 X5 X7)) = np_1))))))))) \\
& \tag{16}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v1_xboole_0 X0) \wedge (m2_finseq_1 X0 (u1_struct_0 (\\
& k15_euclid np_2)))) \Rightarrow ((v2_goboard5 X0) \Leftrightarrow (r1_goboard1 (u1_struct_0 \\
& (k15_euclid np_2)) X0 (k2_goboard2 X0))) \\
& \tag{17}
\end{aligned}$$

Assume the following.

$$\forall X0. (v1_xreal_0 X0) \Rightarrow (v1_xcmplx_0 X0) \tag{18}$$

Assume the following.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow (v1_xreal_0 X0) \tag{19}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 \\
& X0)) \Rightarrow (v1_xboole_0 X1)) \\
& \tag{20}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (v6_membered X0) \Rightarrow (\forall X1. (m1_subset_1 X1 X0) \Rightarrow \\
& (v7_ordinal1 X1)) \\
& \tag{21}
\end{aligned}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge ((v2_goboard5 X0) \wedge (m2_finseq_1 \\ & X0 (u1_struct_0 (k15_euclid np_2)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 k5_numbers) \Rightarrow (((X1 \in k4_finseq_1 X0) \wedge (k2_nat_1 X1 np_1 \in k4_finseq_1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow (\forall X3.(m1_subset_1 \\ X3 k5_numbers) \Rightarrow (\forall X4.(m1_subset_1 X4 k5_numbers) \Rightarrow (\forall X5. \\ (m1_subset_1 X5 k5_numbers) \Rightarrow (((k4_tarski X2 X3 \in k2_matrix_1 (\\ k2_goboard2 X0)) \wedge ((k4_tarski X4 X5 \in k2_matrix_1 (k2_goboard2 \\ X0)) \wedge ((k7_partfun1 (u1_struct_0 (k15_euclid np_2)) X0 X1 = k3_matrix_1 \\ (u1_struct_0 (k15_euclid np_2)) (k2_goboard2 X0) X2 X3) \wedge (k7_partfun1 \\ (u1_struct_0 (k15_euclid np_2)) X0 (k2_nat_1 X1 np_1) = k3_matrix_1 \\ (u1_struct_0 (k15_euclid np_2)) (k2_goboard2 X0) X4 X5)))))) \Rightarrow (\\ k7_real_1 (k18_complex1 (k6_xcmplx_0 X2 X4)) (k18_complex1 (k6_xcmplx_0 \\ X3 X5)) = np_1)))))) \end{aligned}$$