

t6_gobrd12

(TMX7n2s1x2QGRbyad9RFuU4PahzvCPzSUxm)

October 27, 2020

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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k2_goboard2 : \iota \Rightarrow \iota$ be given. Let $k1_matrix_1 : \iota \Rightarrow \iota$ be given. Let $r2_gobrd10 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ 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 $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_goboard9 : \iota \Rightarrow \iota$ be given. Let $k3_goboard9 : \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $r1_gobrd10 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v1_xboole_0 X0) \wedge ((\neg v3_funct_1 X0) \wedge ((v1_finseq_6 \\
 & X0 (u1_struct_0 (k15_euclid np_2))) \wedge ((v1_topreal1 X0) \wedge ((v2_topreal1 \\
 & X0) \wedge ((v1_goboard5 X0) \wedge ((v2_goboard5 X0) \wedge (m2_finseq_1 X0 (u1_struct_0 \\
 & (k15_euclid np_2)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 k5_numbers) \Rightarrow \\
 & (\forall X2. (m1_subset_1 X2 k5_numbers) \Rightarrow (\forall X3. (m1_subset_1 \\
 & X3 k5_numbers) \Rightarrow (\forall X4. (m1_subset_1 X4 k5_numbers) \Rightarrow (((r1_xxreal_0 \\
 & X1 (k3_finseq_1 (k2_goboard2 X0))) \wedge ((r1_xxreal_0 X2 (k1_matrix_1 \\
 & (k2_goboard2 X0))) \wedge ((r1_xxreal_0 X3 (k3_finseq_1 (k2_goboard2 \\
 & X0))) \wedge ((r1_xxreal_0 X4 (k1_matrix_1 (k2_goboard2 X0))) \wedge ((X1 = \\
 & X3) \wedge (r1_tarski (k1_tops_1 (k15_euclid np_2) (k3_goboard5 (k2_goboard2 \\
 & X0) X1 X2)) (k4_subset_1 (u1_struct_0 (k15_euclid np_2)) (k2_goboard9 \\
 & X0) (k3_goboard9 X0)))))))))) \Rightarrow (((X4 \neq k2_nat_1 X2 np_1) \wedge (X2 \neq k2_nat_1 \\
 & X4 np_1)) \vee (r1_tarski (k1_tops_1 (k15_euclid np_2) (k3_goboard5 \\
 & (k2_goboard2 X0) X3 X4)) (k4_subset_1 (u1_struct_0 (k15_euclid \\
 & np_2)) (k2_goboard9 X0) (k3_goboard9 X0)))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge ((\neg v3_funct_1 X0) \wedge ((v1_finseq_6 \\
& X0 (u1_struct_0 (k15_euclid np_2))) \wedge ((v1_topreal1 X0) \wedge ((v2_topreal1 \\
& X0) \wedge ((v1_goboard5 X0) \wedge ((v2_goboard5 X0) \wedge (m2_finseq_1 X0 (u1_struct_0 \\
& (k15_euclid np_2)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 k5_numbers) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow (\forall X3.(m1_subset_1 \\
& X3 k5_numbers) \Rightarrow (\forall X4.(m1_subset_1 X4 k5_numbers) \Rightarrow (((r1_xxreal_0 \\
& X1 (k3_finseq_1 (k2_goboard2 X0))) \wedge ((r1_xxreal_0 X2 (k1_matrix_1 \\
& (k2_goboard2 X0))) \wedge ((r1_xxreal_0 X3 (k3_finseq_1 (k2_goboard2 \\
& X0))) \wedge ((r1_xxreal_0 X4 (k1_matrix_1 (k2_goboard2 X0))) \wedge ((X2 = \\
& X4) \wedge (r1_tarski (k1_tops_1 (k15_euclid np_2) (k3_goboard5 (k2_goboard2 \\
& X0) X1 X2)) (k4_subset_1 (u1_struct_0 (k15_euclid np_2)) (k2_goboard9 \\
& X0) (k3_goboard9 X0)))))) \Rightarrow (((X3 \neq k2_nat_1 X1 np_1) \wedge (X1 \neq k2_nat_1 \\
& X3 np_1)) \vee (r1_tarski (k1_tops_1 (k15_euclid np_2) (k3_goboard5 \\
& (k2_goboard2 X0) X3 X4)) (k4_subset_1 (u1_struct_0 (k15_euclid \\
& np_2)) (k2_goboard9 X0) (k3_goboard9 X0)))))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\
& X1 k5_numbers) \Rightarrow (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 k5_numbers) \Rightarrow ((r2_gobrd10 X0 X1 X2 X3) \Leftrightarrow (((r1_gobrd10 \\
& X0 X2) \wedge (X1 = X3)) \vee ((X0 = X2) \wedge (r1_gobrd10 X1 X3))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\
& X1 k5_numbers) \Rightarrow ((r1_gobrd10 X0 X1) \Leftrightarrow ((X1 = k2_nat_1 X0 np_1) \vee (\\
& X0 = k2_nat_1 X1 np_1))))
\end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge ((\neg v3_funct_1 X0) \wedge ((v1_finseq_6 \\
& X0 (u1_struct_0 (k15_euclid np_2))) \wedge ((v1_topreal1 X0) \wedge ((v2_topreal1 \\
& X0) \wedge ((v1_goboard5 X0) \wedge ((v2_goboard5 X0) \wedge (m2_finseq_1 X0 (u1_struct_0 \\
& (k15_euclid np_2)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 k5_numbers) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow (\forall X3.(m1_subset_1 \\
& X3 k5_numbers) \Rightarrow (\forall X4.(m1_subset_1 X4 k5_numbers) \Rightarrow (((r1_xxreal_0 \\
& X1 (k3_finseq_1 (k2_goboard2 X0))) \wedge ((r1_xxreal_0 X2 (k1_matrix_1 \\
& (k2_goboard2 X0))) \wedge ((r1_xxreal_0 X3 (k3_finseq_1 (k2_goboard2 \\
& X0))) \wedge ((r1_xxreal_0 X4 (k1_matrix_1 (k2_goboard2 X0))) \wedge (r2_gobrd10 \\
& X1 X2 X3 X4)))) \Rightarrow ((r1_tarski (k1_tops_1 (k15_euclid np_2) (k3_goboard5 \\
& (k2_goboard2 X0) X1 X2)) (k4_subset_1 (u1_struct_0 (k15_euclid \\
& np_2)) (k2_goboard9 X0) (k3_goboard9 X0))) \Leftrightarrow (r1_tarski (k1_tops_1 \\
& (k15_euclid np_2) (k3_goboard5 (k2_goboard2 X0) X3 X4)) (k4_subset_1 \\
& (u1_struct_0 (k15_euclid np_2)) (k2_goboard9 X0) (k3_goboard9 \\
& X0)))))))))
\end{aligned}$$