

t17_jordan12

(TMctq5feDsEHur54FmEs2osbULCc3mqZbwF)

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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 $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r3_connsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_goboard9 : \iota \Rightarrow \iota$ be given. Let $k3_goboard9 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X2) \wedge ((\neg v3_funct_1 \\
 & X2) \wedge ((v1_finseq_6 X2 (u1_struct_0 (k15_euclid np_2))) \wedge ((v1_topreal1 \\
 & X2) \wedge ((v2_topreal1 X2) \wedge ((v1_goboard5 X2) \wedge ((v2_goboard5 X2) \wedge \\
 & (m2_finseq_1 X2 (u1_struct_0 (k15_euclid np_2)))))))))) \Rightarrow ((\\
 & (X0 \in k3_subset_1 (u1_struct_0 (k15_euclid np_2)) (k3_topreal1 \\
 & np_2 X2)) \wedge ((X1 \in k3_subset_1 (u1_struct_0 (k15_euclid np_2)) \\
 & (k3_topreal1 np_2 X2)) \wedge (\forall X3. (m1_subset_1 X3 (k1_zfmisc_1 \\
 & (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (\neg (r3_connsp_1 (k15_euclid \\
 & np_2) (k3_subset_1 (u1_struct_0 (k15_euclid np_2)) (k3_topreal1 \\
 & np_2 X2)) X3) \wedge ((X0 \in X3) \wedge (X1 \in X3)))))) \Leftrightarrow (((X0 \in k2_goboard9 X2) \wedge \\
 & (X1 \in k3_goboard9 X2)) \vee ((X0 \in k3_goboard9 X2) \wedge (X1 \in k2_goboard9 \\
 & X2))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X2) \wedge ((\neg v3_funct_1 \\
& X2) \wedge ((v1_finseq_6 X2 (u1_struct_0 (k15_euclid np_2))) \wedge ((v1_topreal1 \\
& X2) \wedge ((v2_topreal1 X2) \wedge ((v1_goboard5 X2) \wedge ((v2_goboard5 X2) \wedge \\
& (m2_finseq_1 X2 (u1_struct_0 (k15_euclid np_2)))))))))) \Rightarrow ((\\
& \neg(\exists X3. (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 (k15_euclid \\
& np_2)))) \wedge ((r3_connsp_1 (k15_euclid np_2) (k3_subset_1 (u1_struct_0 \\
& (k15_euclid np_2)) (k3_topreal1 np_2 X2)) X3) \wedge ((X0 \in X3) \wedge (X1 \in \\
& X3)))) \wedge ((\neg(X0 \in k3_goboard9 X2) \wedge (X1 \in k3_goboard9 X2)) \wedge (\neg(X0 \in \\
& k2_goboard9 X2) \wedge (X1 \in k2_goboard9 X2))) \wedge (\neg(((X0 \in k3_goboard9 \\
& X2) \wedge (X1 \in k3_goboard9 X2)) \vee ((X0 \in k2_goboard9 X2) \wedge (X1 \in k2_goboard9 \\
& X2))) \wedge (\forall X3. (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 \\
& (k15_euclid np_2)))) \Rightarrow (\neg(r3_connsp_1 (k15_euclid np_2) (k3_subset_1 \\
& (u1_struct_0 (k15_euclid np_2)) (k3_topreal1 np_2 X2)) X3) \wedge \\
& ((X0 \in X3) \wedge (X1 \in X3))))))
\end{aligned} \tag{2}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((\neg v1_xboole_0 X0) \wedge ((\neg v3_funct_1 X0) \wedge ((v1_finseq_6 \\
& X0 (u1_struct_0 (k15_euclid np_2))) \wedge ((v1_topreal1 X0) \wedge ((v2_topreal1 \\
& X0) \wedge ((v1_goboard5 X0) \wedge ((v2_goboard5 X0) \wedge (m2_finseq_1 X0 (u1_struct_0 \\
& (k15_euclid np_2)))))))))) \Rightarrow (\forall X1. \forall X2. \forall X3. \\
& \neg(X1 \in k3_subset_1 (u1_struct_0 (k15_euclid np_2)) (k3_topreal1 \\
& np_2 X0)) \wedge ((X2 \in k3_subset_1 (u1_struct_0 (k15_euclid np_2)) \\
& (k3_topreal1 np_2 X0)) \wedge ((X3 \in k3_subset_1 (u1_struct_0 (k15_euclid \\
& np_2)) (k3_topreal1 np_2 X0)) \wedge ((\forall X4. (m1_subset_1 X4 \\
& (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (\neg(r3_connsp_1 \\
& (k15_euclid np_2) (k3_subset_1 (u1_struct_0 (k15_euclid np_2)) \\
& (k3_topreal1 np_2 X0)) X4) \wedge ((X1 \in X4) \wedge (X2 \in X4)))) \wedge ((\forall X4. \\
& (m1_subset_1 X4 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow \\
& (\neg(r3_connsp_1 (k15_euclid np_2) (k3_subset_1 (u1_struct_0 \\
& (k15_euclid np_2)) (k3_topreal1 np_2 X0)) X4) \wedge ((X2 \in X4) \wedge (X3 \in \\
& X4)))) \wedge (\forall X4. (m1_subset_1 X4 (k1_zfmisc_1 (u1_struct_0 \\
& (k15_euclid np_2)))) \Rightarrow (\neg(r3_connsp_1 (k15_euclid np_2) (k3_subset_1 \\
& (u1_struct_0 (k15_euclid np_2)) (k3_topreal1 np_2 X0)) X4) \wedge \\
& ((X1 \in X4) \wedge (X3 \in X4))))))
\end{aligned}$$