

t3_jordan7

(TMS2Kgyi9Bs7xca7Uv2VqDn2u5VH4gH4X6s)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_compts_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_topreal2 : \iota \Rightarrow o$ be given. Let $r1_jordan6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k18_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $r1_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k22_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $k8_jordan6 : \iota \Rightarrow \iota$ be given. Let $k9_jordan6 : \iota \Rightarrow \iota$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k18_euclid : \iota \Rightarrow \iota$ be given. Let $k1_jordan5c : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_jordan6 : \iota \Rightarrow \iota$ be given. Let $k10_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $k8_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $k2_jordan5c : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_jordan5c : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid \\
 & \quad np_2)))) \Rightarrow ((v1_topreal2 X0) \Rightarrow ((r1_topreal1 (k15_euclid np_2) \\
 & (k18_pscomp_1 X0) (k22_pscomp_1 X0) (k8_jordan6 X0)) \wedge ((r1_topreal1 \\
 & (k15_euclid np_2) (k22_pscomp_1 X0) (k18_pscomp_1 X0) (k8_jordan6 \\
 & X0)) \wedge ((r1_topreal1 (k15_euclid np_2) (k22_pscomp_1 X0) (k18_pscomp_1 \\
 & X0) (k9_jordan6 X0)) \wedge ((r1_topreal1 (k15_euclid np_2) (k18_pscomp_1 \\
 & X0) (k22_pscomp_1 X0) (k9_jordan6 X0)) \wedge ((k9_subset_1 (u1_struct_0 \\
 & (k15_euclid np_2)) (k8_jordan6 X0) (k9_jordan6 X0) = k2_tarski \\
 & (k18_pscomp_1 X0) (k22_pscomp_1 X0)) \wedge ((k4_subset_1 (u1_struct_0 \\
 & (k15_euclid np_2)) (k8_jordan6 X0) (k9_jordan6 X0) = X0) \wedge (\neg r1_xxreal_0 \\
 & (k18_euclid (k1_jordan5c (k8_jordan6 X0) (k6_jordan6 (k10_real_1 \\
 & (k7_real_1 (k6_pscomp_1 X0) (k8_pscomp_1 X0)) np_2)) (k18_pscomp_1 \\
 & X0) (k22_pscomp_1 X0))) (k18_euclid (k2_jordan5c (k9_jordan6 \\
 & X0) (k6_jordan6 (k10_real_1 (k7_real_1 (k6_pscomp_1 X0) (k8_pscomp_1 \\
 & X0)) np_2)) (k22_pscomp_1 X0) (k18_pscomp_1 X0)))))))))
 \end{aligned}
 \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1_xboole_0 X0) \wedge ((v2_compts_1 X0 (k15_euclid np_2)) \wedge \\ (m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2))))) \Rightarrow \\ ((v1_topreal2 X0) \Rightarrow ((k18_pscomp_1 X0 \in k9_jordan6 X0) \wedge ((k22_pscomp_1 \\ X0 \in k9_jordan6 X0) \wedge ((k18_pscomp_1 X0 \in k8_jordan6 X0) \wedge (k22_pscomp_1 \\ X0 \in k8_jordan6 X0))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid \\ np_2)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid \\ np_2))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid \\ np_2))) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 (k15_euclid \\ np_2))) \Rightarrow (((r1_topreal1 (k15_euclid np_2) X1 X2 X0) \wedge (X3 \in X0)) \Rightarrow \\ ((r1_jordan5c X0 X1 X2 X1 X3) \wedge (r1_jordan5c X0 X1 X2 X3 X2)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (k4_subset_1 X0 X1 X2 = k2_xboole_0 X1 X2) \quad (5)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow ((\neg v1_xboole_0 (k9_jordan6 X0)) \wedge (m1_subset_1 (k9_jordan6 X0) (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2))))) \quad (6)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow ((\neg v1_xboole_0 (k8_jordan6 X0)) \wedge (m1_subset_1 (k8_jordan6 X0) (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2))))) \quad (7)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (m1_subset_1 (k18_pscomp_1 X0) (u1_struct_0 (k15_euclid np_2))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2_xboole_0 X0 X1) \Leftrightarrow (\forall X3.(X3 \in X2) \Leftrightarrow ((X3 \in X0) \vee (X3 \in X1))) \quad (9)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid \\
& \quad np_2)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid \\
& \quad np_2)))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid \\
& \quad np_2)))) \Rightarrow ((r1_jordan6 X0 X1 X2) \Leftrightarrow (\neg(\neg(X1 \in k8_jordan6 X0) \wedge ((X2 \in \\
& \quad k9_jordan6 X0) \wedge (X2 \neq k18_pscomp_1 X0))) \wedge (\neg(X1 \in k8_jordan6 X0) \wedge \\
& \quad ((X2 \in k8_jordan6 X0) \wedge (r1_jordan5c (k8_jordan6 X0) (k18_pscomp_1 \\
& \quad X0) (k22_pscomp_1 X0) X1 X2)))) \wedge (\neg(X1 \in k9_jordan6 X0) \wedge ((X2 \in k9_jordan6 \\
& \quad X0) \wedge ((X2 \neq k18_pscomp_1 X0) \wedge (r1_jordan5c (k9_jordan6 X0) (k22_pscomp_1 \\
& \quad X0) (k18_pscomp_1 X0) X1 X2)))))))))
\end{aligned} \tag{10}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge ((v2_compts_1 X0 (k15_euclid np_2)) \wedge \\
& (m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))))) \Rightarrow \\
& \quad (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow \\
& (((v1_topreal2 X0) \wedge (X1 \in X0)) \Rightarrow (r1_jordan6 X0 (k18_pscomp_1 X0) \\
& \quad X1))
\end{aligned}$$