

t19_jordan7

(TMTec9GrgWSLwSn3KA9NKksYcMrXe9zpGPf)

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Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $k15_euclid : \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_topmetr : \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $v5_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $np_1 : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_jordan5c : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k1_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_tops_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((\neg v1_xboole_0 \\
 & X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 (k15_euclid X0)))))) \Rightarrow \\
 & (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 k5_topmetr) \\
 & (u1_struct_0 (k15_euclid X0))) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
 & (k2_zfmisc_1 (u1_struct_0 k5_topmetr) (u1_struct_0 (k15_euclid \\
 & X0)))))) \Rightarrow (\neg (v5_pre_topc X2 k5_topmetr (k15_euclid X0) \wedge ((v2_funct_1 \\
 & X2) \wedge ((k2_relset_1 (u1_struct_0 (k15_euclid X0)) X2 = X1) \wedge (\forall X3. \\
 & ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 k5_topmetr) (u1_struct_0 \\
 & (k1_pre_topc (k15_euclid X0) X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
 & (k2_zfmisc_1 (u1_struct_0 k5_topmetr) (u1_struct_0 (k1_pre_topc \\
 & (k15_euclid X0) X1)))))) \Rightarrow (\neg (X3 = X2) \wedge (v3_tops_2 X3 k5_topmetr \\
 & (k1_pre_topc (k15_euclid X0) X1)))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\
 & ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid \\
& \quad np_2)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid \\
& \quad np_2)))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid \\
& \quad np_2)))) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 (k15_euclid \\
& \quad np_2)))) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 (k15_euclid \\
& np_2)))) \Rightarrow ((r1_jordan5c X0 X1 X2 X3 X4) \Leftrightarrow ((X3 \in X0) \wedge ((X4 \in X0) \wedge (\forall X5. \\
& ((v1_funct_1 X5) \wedge ((v1_funct_2 X5 (u1_struct_0 k5_topmetr) (u1_struct_0 \\
& (k1_pre_topc (k15_euclid np_2) X0))) \wedge (m1_subset_1 X5 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (u1_struct_0 k5_topmetr) (u1_struct_0 (k1_pre_topc \\
& (k15_euclid np_2) X0)))))) \Rightarrow (\forall X6.(m1_subset_1 X6 k1_numbers) \Rightarrow \\
& (\forall X7.(m1_subset_1 X7 k1_numbers) \Rightarrow (((v3_tops_2 X5 k5_topmetr \\
& (k1_pre_topc (k15_euclid np_2) X0)) \wedge ((k1_funct_1 X5 k6_numbers = \\
& X1) \wedge ((k1_funct_1 X5 np_1 = X2) \wedge ((k1_funct_1 X5 X6 = X3) \wedge ((r1_xxreal_0 \\
& k6_numbers X6) \wedge ((r1_xxreal_0 X6 np_1) \wedge ((k1_funct_1 X5 X7 = X4) \wedge \\
& ((r1_xxreal_0 k6_numbers X7) \wedge (r1_xxreal_0 X7 np_1)))))))))) \Rightarrow \\
& \quad (r1_xxreal_0 X6 X7))))))))) \tag{3}
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (\\
& \quad u1_struct_0 (k15_euclid np_2)))))) \Rightarrow (\forall X1.(m1_subset_1 \\
& \quad X1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (\forall X2.(m1_subset_1 \\
& \quad X2 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (\forall X3.(m1_subset_1 \\
& \quad X3 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (\forall X4.(m1_subset_1 \\
& \quad X4 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (\forall X5.((v1_funct_1 \\
& X5) \wedge ((v1_funct_2 X5 (u1_struct_0 k5_topmetr) (u1_struct_0 (k15_euclid \\
& np_2))) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\
& \quad k5_topmetr) (u1_struct_0 (k15_euclid np_2)))))) \Rightarrow (\forall X6. \\
& (m1_subset_1 X6 k1_numbers) \Rightarrow (\forall X7.(m1_subset_1 X7 k1_numbers) \Rightarrow \\
& (((v5_pre_topc X5 k5_topmetr (k15_euclid np_2)) \wedge ((v2_funct_1 \\
& X5) \wedge ((k2_reset_1 (u1_struct_0 (k15_euclid np_2)) X5 = X0) \wedge \\
& (k1_funct_1 X5 k6_numbers = X1) \wedge ((k1_funct_1 X5 np_1 = X2) \wedge ((k1_funct_1 \\
& X5 X6 = X3) \wedge ((r1_xxreal_0 k6_numbers X6) \wedge ((r1_xxreal_0 X6 np_1) \wedge \\
& ((k1_funct_1 X5 X7 = X4) \wedge ((r1_xxreal_0 k6_numbers X7) \wedge ((r1_xxreal_0 \\
& X7 np_1) \wedge (r1_jordan5c X0 X1 X2 X3 X4)))))))))) \Rightarrow (r1_xxreal_0 \\
& \quad X6 X7)))))))))
\end{aligned}$$