

t16_jordan12 (TMPL- ySe2VaUzDFYLPzETwdx8HDbbA2HKqUz)

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

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

Assume the following.

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

Theorem 1

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