

t43_jordan1k (TM-
Luf9TZ1bBVLejMRbxRymCaD9hvMCkmYrX)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $k4_jordan1k : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_topreal6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $v5_rlvect_1 : \iota \Rightarrow o$ be given. Let $v6_rlvect_1 : \iota \Rightarrow o$ be given. Let $v7_rlvect_1 : \iota \Rightarrow o$ be given. Let $v8_rlvect_1 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $k1_rltopsp1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v2_compts_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $r1_sppol_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k14_euclid : \iota \Rightarrow \iota$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $v5_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $k2_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg (v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge (v2_rlvect_1 \\ & X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (v5_rlvect_1 X0) \wedge \\ & ((v6_rlvect_1 X0) \wedge (v7_rlvect_1 X0) \wedge (v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ & X0)))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & (k1_rltopsp1 X0 X1 X1 = k6_domain_1 (u1_struct_0 X0) X1)) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\ ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 \\ X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (X1 \in k1_rltopsp1 \\ X0 X1 X2))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((\neg v1_xboole_0 \\ X1) \wedge ((v2_compts_1 X1 (k15_euclid X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 (k15_euclid X0)))))) \Rightarrow (\forall X2.((\neg v1_xboole_0 \\ X2) \wedge ((v2_compts_1 X2 (k15_euclid X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ (u1_struct_0 (k15_euclid X0)))))) \Rightarrow (\exists X3.(m1_subset_1 \\ X3 (u1_struct_0 (k15_euclid X0))) \wedge (\exists X4.(m1_subset_1 X4 \\ (u1_struct_0 (k15_euclid X0))) \wedge ((X3 \in X1) \wedge ((X4 \in X2) \wedge (k4_jordan1k \\ X0 X1 X2 = k1_topreal6 X0 X3 X4)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. \forall X1.(m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarSKI \\ X0 X1) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ (m1_subset_1 X1 (u1_struct_0 (k15_euclid X0))) \Rightarrow (r1_sppol_1 X0 \\ X1 (k6_domain_1 (u1_struct_0 (k15_euclid X0)) X1))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2.(m1_subset_1 X1 (k1_zfmisc_1 \\ X0)) \Rightarrow (k7_subset_1 X0 X1 X2 = k4_xboole_0 X1 X2) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 X0)) \Rightarrow \\ (k6_domain_1 X0 X1 = k1_tarSKI X1) \end{aligned} \quad (10)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (11)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow ((u1_struct_0 (k14_euclid X0) = k1_euclid X0) \wedge (u1_struct_0 (k15_euclid X0) = k1_euclid X0)) \quad (12)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1 X0) \Rightarrow & ((v2_pre_topc (k15_euclid X0)) \wedge \\ & ((v13_algstr_0 (k15_euclid X0)) \wedge (v2_rlvect_1 (k15_euclid X0)) \wedge \\ & ((v3_rlvect_1 (k15_euclid X0)) \wedge (v4_rlvect_1 (k15_euclid X0)) \wedge \\ & ((v5_rlvect_1 (k15_euclid X0)) \wedge (v6_rlvect_1 (k15_euclid X0)) \wedge \\ & ((v7_rlvect_1 (k15_euclid X0)) \wedge (v8_rlvect_1 (k15_euclid X0)) \wedge \\ & (v5_rltopsp1 (k15_euclid X0))))))))) \quad (14) \end{aligned}$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow ((\neg v2_struct_0 (k15_euclid X0)) \wedge (v5_rltopsp1 (k15_euclid X0))) \quad (15)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2. & ((m1_subset_1 X0 k5_numbers) \wedge \\ & ((m1_subset_1 X1 (u1_struct_0 (k15_euclid X0))) \wedge (m1_subset_1 \\ & X2 (u1_struct_0 (k15_euclid X0)))))) \Rightarrow (v2_compts_1 (k1_rltopsp1 \\ & (k15_euclid X0) X1 X2) (k15_euclid X0)) \quad (17) \end{aligned}$$

Assume the following.

$$\forall X0.(l1_rltopsp1 X0) \Rightarrow ((l1_rlvect_1 X0) \wedge (l1_pre_topc X0)) \quad (18)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (l1_struct_0 X0) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (m1_subset_1 (k7_subset_1 X0 X1 X2) (k1_zfmisc_1 X0)) \quad (20)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (21)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow (m1_subset_1 (k2_struct_0 X0) (k1_zfmisc_1 (u1_struct_0 X0))) \quad (22)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\ & ((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 \\ & X0) \wedge (l1_rlvect_1 X0)))))))))) \wedge ((m1_subset_1 X1 (u1_struct_0 \\ & X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 (k1_rltopsp1 \\ & X0 X1 X2) (k1_zfmisc_1 (u1_struct_0 X0))) \end{aligned} \quad (23)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow ((v5_rltopsp1 (k15_euclid X0)) \wedge (l1_rltopsp1 (k15_euclid X0))) \quad (24)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow (k2_struct_0 X0 = u1_struct_0 X0) \quad (25)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1_tarski X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (X2 = X0)) \quad (26)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 (k15_euclid X0))) \Rightarrow (\forall X2.(\\ & m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 (k15_euclid X0)))) \Rightarrow \\ & ((r1_sppol_1 X0 X1 X2) \Leftrightarrow ((X1 \in X2) \wedge (\forall X3.(m1_subset_1 X3 (\\ & u1_struct_0 (k15_euclid X0))) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\ & (k15_euclid X0))) \Rightarrow (\neg(X1 \in k1_rltopsp1 (k15_euclid X0) X3 X4) \wedge \\ & (r1_tarski (k1_rltopsp1 (k15_euclid X0) X3 X4) X2) \wedge ((X1 \neq X3) \wedge \\ & X1 \neq X4)))))))))) \end{aligned} \quad (27)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (28)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (29)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 (u1_struct_0 (k15_euclid X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ & (u1_struct_0 (k15_euclid X0))) \Rightarrow (k4_jordan1k X0 (k6_domain_1 \\ & (u1_struct_0 (k15_euclid X0)) X1) (k6_domain_1 (u1_struct_0 (\\ & k15_euclid X0)) X2) = k1_topreal6 X0 X1 X2))) \end{aligned}$$