

t16_jordan1j (TMFcyCNUKY-
cau2SHQbSPg5R6BsN54Q6iD1D)

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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 $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k21_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $k17_euclid : \iota \Rightarrow \iota$ be given. Let $k18_euclid : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k19_euclid : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $k20_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $k6_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $k8_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $k9_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k2_pscomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_pscomp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_pscomp_1 : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (((k17_euclid X0 = k17_euclid X1) \wedge (k18_euclid X0 = k18_euclid X1)) \Rightarrow \\ & (X0 = X1))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (\\ & u1_struct_0 (k15_euclid np_2)))))) \Rightarrow (\forall X1.((v2_compts_1 \\ & X1 (k15_euclid np_2)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & (k15_euclid np_2)))))) \Rightarrow ((r1_tarski X0 X1) \Rightarrow (r1_xxreal_0 (k7_pscomp_1 \\ & X0) (k7_pscomp_1 X1)))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((k17_euclid (k19_euclid X0 X1) = X0) \wedge (k18_euclid (k19_euclid X0 X1) = X1))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 (k1_zfmisc_1 X1))\Leftrightarrow(r1_tarski X0 X1) \quad (5)$$

Assume the following.

$$\begin{aligned} &\forall X0.(m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2)))\Rightarrow \\ &(\forall X1.((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ &(u1_struct_0 (k15_euclid np_2))))))\Rightarrow((X0 \in k15_pscomp_1 X1)\Rightarrow \\ &((k18_euclid X0 = k18_euclid (k20_pscomp_1 X1))\wedge((v2_compts_1 \\ &X1 (k15_euclid np_2))\Rightarrow((r1_xxreal_0 (k17_euclid (k20_pscomp_1 \\ &X1)) (k17_euclid X0))\wedge(r1_xxreal_0 (k17_euclid X0) (k17_euclid \\ &(k21_pscomp_1 X1)))))))) \quad (6) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1)\Rightarrow((v1_xboole_0 X1)\vee (X0 \in X1)) \quad (7)$$

Assume the following.

$$\begin{aligned} &\forall X0.(m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2)))\Rightarrow \\ &(\forall X1.((\neg v1_xboole_0 X1)\wedge((v2_compts_1 X1 (k15_euclid \\ &np_2))\wedge(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 (k15_euclid \\ &np_2))))))\Rightarrow((X0 \in X1)\Rightarrow((r1_xxreal_0 (k6_pscomp_1 X1) (k17_euclid \\ &X0))\wedge((r1_xxreal_0 (k17_euclid X0) (k8_pscomp_1 X1))\wedge((r1_xxreal_0 \\ &(k9_pscomp_1 X1) (k18_euclid X0))\wedge(r1_xxreal_0 (k18_euclid X0) \\ &(k7_pscomp_1 X1)))))))) \quad (8) \end{aligned}$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0)\Rightarrow(\forall X1.(v1_xxreal_0 X1)\Rightarrow(((r1_xxreal_0 X0 X1)\wedge(r1_xxreal_0 X1 X0))\Rightarrow(X0 = X1))) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0)\wedge((v2_compts_1 X0 (k15_euclid np_2))\wedge(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2))))))\Rightarrow((k20_pscomp_1 X0 \in X0)\wedge(k21_pscomp_1 X0 \in X0)) \quad (10)$$

Assume the following.

$$\begin{aligned} &\forall X0.((v2_compts_1 X0 (k15_euclid np_2))\wedge(m1_subset_1 \\ &X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2))))))\Rightarrow(\forall X1. \\ &(m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2)))\Rightarrow(((X1 \in X0)\wedge \\ &(k18_euclid X1 = k7_pscomp_1 X0))\Rightarrow(X1 \in k15_pscomp_1 X0))) \quad (11) \end{aligned}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2))))\Rightarrow(m1_subset_1 (k8_pscomp_1 X0) k1_numbers) \quad (12)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (m1_subset_1 (k7_pscomp_1 X0) k1_numbers) \quad (13)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (m1_subset_1 (k21_pscomp_1 X0) (u1_struct_0 (k15_euclid np_2))) \quad (14)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (m1_subset_1 (k15_pscomp_1 X0) (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \quad (15)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (k8_pscomp_1 X0 = k2_pscomp_1 (k1_pre_topc (k15_euclid np_2) X0) (k3_pscomp_1 (k15_euclid np_2) k4_pscomp_1 X0)) \quad (16)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (k21_pscomp_1 X0 = k19_euclid (k2_pscomp_1 (k1_pre_topc (k15_euclid np_2) (k15_pscomp_1 X0)) (k3_pscomp_1 (k15_euclid np_2) k4_pscomp_1 (k15_pscomp_1 X0))) (k7_pscomp_1 X0)) \quad (17)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xxreal_0 X0) \quad (18)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (19)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge ((v2_compts_1 X0 (k15_euclid np_2)) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))))) \Rightarrow \\ & (\forall X1.((\neg v1_xboole_0 X1) \wedge ((v2_compts_1 X1 (k15_euclid \\ & np_2)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 (k15_euclid \\ & np_2)))))) \Rightarrow (((r1_tarski X0 X1) \wedge (k21_pscomp_1 X1 \in X0)) \Rightarrow (k21_pscomp_1 \\ & X0 = k21_pscomp_1 X1))) \end{aligned}$$