

t13_jordan3

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Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v3_topreal1 : \iota \Rightarrow o$ be given. Let $k2_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_jordan3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k3_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $v3_xxreal_2 : \iota \Rightarrow o$ be given. Let $v4_xxreal_2 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $v2_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & ((X1 \in k3_topreal1 np_2 X0) \Rightarrow (X1 \in k2_topreal1 np_2 X0 (k1_jordan3 \\ & X0 X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow ((X1 \in k2_topreal1 np_2 \\ & X0 X2) \Rightarrow (r1_xxreal_0 (k1_jordan3 X0 X1) X2)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(\neg(\neg r1_xboole_0 X0 X1) \wedge (\forall X2.\neg X2 \in \\ & k3_xboole_0 X0 X1)) \wedge (\neg(\exists X2.X2 \in k3_xboole_0 X0 X1) \wedge (r1_xboole_0 \\ & X0 X1)) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 X1 X0)) \Rightarrow (X0 = X1)) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow ((X1 \in k2_topreal1 np_2 \\ & X0 X2) \Rightarrow (X1 \in k3_topreal1 np_2 X0)))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow ((\neg r1_xxreal_0 (k1_nat_1 X1 np_1) X0) \Leftrightarrow (r1_xxreal_0 X0 X1))) \quad (6)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (8)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k5_numbers) \wedge (v7_ordinal1 X1)) \Rightarrow (k2_nat_1 X0 X1 = k2_xcmplx_0 X0 X1) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0) \wedge (m1_subset_1 X1 k5_numbers)) \Rightarrow (k1_nat_1 X0 X1 = k2_xcmplx_0 X0 X1) \quad (11)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (12)$$

Assume the following.

$$v3_membered k1_numbers \quad (13)$$

Assume the following.

$$(\neg v3_xxreal_2 k1_numbers) \wedge (\neg v4_xxreal_2 k1_numbers) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Rightarrow(m1_subset_1 X2 X0)) \quad (15)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0)\wedge(m1_subset_1 X1 k5_numbers))\Rightarrow(m2_subset_1 (k1_nat_1 X0 X1) k1_numbers k5_numbers) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.((m1_finseq_1 X0 (u1_struct_0 (k15_euclid np_2)))\wedge(m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2))))\Rightarrow(m1_subset_1 (k1_jordan3 X0 X1) k5_numbers) \quad (18)$$

Assume the following.

$$\forall X0.(m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2)))\Rightarrow((v3_topreal1 X0)\Leftrightarrow(\forall X1.(v7_ordinal1 X1)\Rightarrow(\forall X2.(v7_ordinal1 X2)\Rightarrow((\neg r1_xxreal_0 X2 (k1_nat_1 X1 np_1))\Rightarrow(r1_xboole_0 (k2_topreal1 np_2 X0 X1) (k2_topreal1 np_2 X0 X2)))))) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3_xboole_0 X0 X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(X3 \in X1))) \quad (20)$$

Assume the following.

$$\forall X0.(v6_membered X0)\Rightarrow((v6_membered X0)\wedge(v3_xxreal_2 X0)) \quad (21)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (22)$$

Assume the following.

$$\forall X0.(v3_membered X0)\Rightarrow(v2_membered X0) \quad (23)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(v1_xxreal_0 X0) \quad (24)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(v6_membered X0) \quad (25)$$

Assume the following.

$$\forall X0.(v2_membered X0)\Rightarrow(\forall X1.(m1_subset_1 X1 X0)\Rightarrow(v1_xxreal_0 X1)) \quad (26)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow (\neg(v3_topreal1 X0) \wedge \\ & ((X1 \in k2_topreal1 np_2 X0 X2) \wedge ((X2 \neq k1_jordan3 X0 X1) \wedge (X2 \neq k2_nat_1 \\ & (k1_jordan3 X0 X1) np_1)))))) \end{aligned}$$