

t44_jordan3
(TMN3uPgfcJ75Sv3XQpZS9q2YSa7JaSSHYjK)

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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 $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k3_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_topreal1 : \iota \Rightarrow o$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k8_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_jordan3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_finseq_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_jordan3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k5_numbers : \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\
& (\forall X1.(m2_finseq_1 X1 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\
& (((k1_funct_1 X0 (k3_finseq_1 X0) = k1_funct_1 X1 np_1) \wedge ((X2 \in \\
& k3_topreal1 np_2 X0) \wedge ((v4_topreal1 X0) \wedge ((v4_topreal1 X1) \wedge \\
& k9_subset_1 (u1_struct_0 (k15_euclid np_2)) (k3_topreal1 np_2 \\
& X0) (k3_topreal1 np_2 X1) = k1_tarski (k1_funct_1 X1 np_1)))))) \Rightarrow \\
& ((X2 = k1_funct_1 X0 (k3_finseq_1 X0)) \vee (r1_jordan3 (k8_finseq_1 \\
& (u1_struct_0 (k15_euclid np_2)) (k2_jordan3 X0 X2) (k3_finseq_6 \\
& (u1_struct_0 (k15_euclid np_2)) X1 np_2 (k3_finseq_1 X1))) X2 \\
& (k7_partfun1 (u1_struct_0 (k15_euclid np_2)) X1 (k3_finseq_1 \\
& X1))))))
\end{aligned} \tag{1}$$

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.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Leftrightarrow(m1_finseq_1 X1 X0) \quad (3)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (4)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow (k3_finseq_1 X0 = k1_card_1 X0) \quad (5)$$

Assume the following.

$$v6_membered k4_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0)\Rightarrow((v1_finset_1 (k1_card_1 X0))\wedge(v1_card_1 (k1_card_1 X0))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Rightarrow((v1_funct_1 X1)\wedge((v1_finseq_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_finseq_1 X1))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_finseq_1 X1 X0)\wedge(m1_finseq_1 X2 X0))\Rightarrow(m2_finseq_1 (k8_finseq_1 X0 X1 X2) X0) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_relat_1 X1)\wedge((v5_relat_1 X1 X0)\wedge(v1_funct_1 X1)))\Rightarrow(m1_subset_1 (k7_partfun1 X0 X1 X2) X0) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge((m1_finseq_1 X1 X0)\wedge((v7_ordinal1 X2)\wedge(v7_ordinal1 X3))))\Rightarrow(m2_finseq_1 (k3_finseq_6 X0 X1 X2 X3) X0) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((m1_finseq_1 X0 (u1_struct_0 (k15_euclid np_2)))\wedge(m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2))))\Rightarrow(m2_finseq_1 (k2_jordan3 X0 X1) (u1_struct_0 (k15_euclid np_2))) \quad (13)$$

Assume the following.

$$\forall X0.v1_card_1 (k1_card_1 X0) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & ((r1_jordan3 X0 X1 X2) \Leftrightarrow ((v4_topreal1 X0) \wedge ((k1_funct_1 X0 np_1 = \\ & X1) \wedge (k1_funct_1 X0 (k3_finseq_1 X0) = X2)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.((v3_ordinal1 X0) \wedge (v1_finset_1 X0)) \Rightarrow (v7_ordinal1 X0) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.(v1_xboole_0 X0) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 X0))) \Rightarrow (v1_xboole_0 X2)) \quad (17)$$

Assume the following.

$$\forall X0.(m1_finseq_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow ((v4_topreal1 X0) \Rightarrow (\neg v1_xboole_0 X0)) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0) \Rightarrow (v5_relat_1 X1 X0) \quad (19)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 X0))) \quad (20)$$

Assume the following.

$$\forall X0.(v1_card_1 X0) \Rightarrow (v3_ordinal1 X0) \quad (21)$$

Assume the following.

$$\forall X0.(v6_membered X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow (v7_ordinal1 X1)) \quad (22)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (\forall X1.(m2_finseq_1 X1 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (((k1_funct_1 X0 (k3_finseq_1 X0) = k1_funct_1 X1 np_1) \wedge ((X2 \in \\ & k3_topreal1 np_2 X0) \wedge ((v4_topreal1 X0) \wedge ((v4_topreal1 X1) \wedge \\ & k9_subset_1 (u1_struct_0 (k15_euclid np_2)) (k3_topreal1 np_2 \\ & X0) (k3_topreal1 np_2 X1) = k1_tarski (k1_funct_1 X1 np_1)))))) \Rightarrow \\ & ((X2 = k1_funct_1 X0 (k3_finseq_1 X0)) \vee (v4_topreal1 (k8_finseq_1 \\ & (u1_struct_0 (k15_euclid np_2)) (k2_jordan3 X0 X2) (k3_finseq_6 \\ & (u1_struct_0 (k15_euclid np_2)) X1 np_2 (k3_finseq_1 X1)))))) \end{aligned}$$