

t19_jordan5b (TM-
RyGa7U7XAk7fFG5oz2xYRumPGK9r2vCou)

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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 $k3_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_topreal1 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k2_jordan3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_jordan3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $v2_topreal1 : \iota \Rightarrow o$ be given. Let $v3_topreal1 : \iota \Rightarrow o$ be given. Let $v1_topreal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (((v4_topreal1 X0) \wedge (X1 \in k3_topreal1 np_2 X0)) \Rightarrow ((X1 = k1_funct_1 \\ & X0 (k3_finseq_1 X0)) \vee (v4_topreal1 (k2_jordan3 X0 X1)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & ((X1 \in k3_topreal1 np_2 X0) \Rightarrow ((k1_funct_1 (k2_jordan3 X0 X1) np_1 = \\ & X1) \wedge (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow ((r1_xxreal_0 X2 \\ & (k3_finseq_1 (k2_jordan3 X0 X1))) \Rightarrow ((r1_xxreal_0 X2 np_1) \vee ((\\ & (X1 = k1_funct_1 X0 (k2_nat_1 (k1_jordan3 X0 X1) np_1)) \Rightarrow (k1_funct_1 \\ & (k2_jordan3 X0 X1) X2 = k1_funct_1 X0 (k2_nat_1 (k1_jordan3 X0 X1) \\ & X2)))) \wedge ((X1 \neq k1_funct_1 X0 (k2_nat_1 (k1_jordan3 X0 X1) np_1)) \Rightarrow \\ & (k1_funct_1 (k2_jordan3 X0 X1) X2 = k1_funct_1 X0 (k9_real_1 (k2_nat_1 \\ & (k1_jordan3 X0 X1) X2) np_1)))))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m2_finseq_1 \\ & X1 (u1_struct_0 (k15_euclid X0))) \Rightarrow ((r1_xxreal_0 np_2 (k3_finseq_1 \\ & X1)) \Rightarrow ((k1_funct_1 X1 np_1 \in k3_topreal1 X0 X1) \wedge ((k7_partfun1 \\ & (u1_struct_0 (k15_euclid X0)) X1 np_1 \in k3_topreal1 X0 X1) \wedge ((k1_funct_1 \\ & X1 (k3_finseq_1 X1) \in k3_topreal1 X0 X1) \wedge (k7_partfun1 (u1_struct_0 \\ & (k15_euclid X0)) X1 (k3_finseq_1 X1) \in k3_topreal1 X0 X1)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1_finseq_1 X0 (u1_struct_0 (k15_euclid \\ & np_2))) \wedge (m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow \\ & (m2_finseq_1 (k2_jordan3 X0 X1) (u1_struct_0 (k15_euclid np_2))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & ((v4_topreal1 X0) \Leftrightarrow ((v2_funct_1 X0) \wedge ((r1_xxreal_0 np_2 (k3_finseq_1 \\ & X0)) \wedge ((v2_topreal1 X0) \wedge ((v3_topreal1 X0) \wedge (v1_topreal1 X0)))))) \end{aligned} \quad (7)$$

Theorem 1

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