

t21_jordan17
(TMHyCFtsGbQ19qVWbz7Lj6ruaKmM27jf21S)

October 27, 2020

Let $v1_topreal2 : \iota \Rightarrow o$ 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 $k15_euclid : \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $r1_jordan17 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_jordan6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid \\ np_2)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid \\ np_2))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid \\ np_2))) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 (k15_euclid \\ np_2)))) \Rightarrow (((v1_topreal2 X0) \wedge ((r1_jordan6 X0 X1 X2) \wedge (r1_jordan6 \\ X0 X2 X3))) \Rightarrow (r1_jordan6 X0 X1 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid \\ np_2)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid \\ np_2))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid \\ np_2))) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 (k15_euclid \\ np_2)))) \Rightarrow (((v1_topreal2 X0) \wedge ((r1_jordan6 X0 X1 X2) \wedge (r1_jordan6 \\ X0 X2 X1))) \Rightarrow (X1 = X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid \\ np_2)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid \\ np_2))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid \\ np_2))) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 (k15_euclid \\ np_2))) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 (k15_euclid \\ np_2)))) \Rightarrow ((r1_jordan17 X0 X1 X2 X3 X4) \Leftrightarrow (\neg(\neg(r1_jordan6 X0 X1 X2) \wedge \\ ((r1_jordan6 X0 X2 X3) \wedge (r1_jordan6 X0 X3 X4))) \wedge (\neg(r1_jordan6 \\ X0 X2 X3) \wedge (r1_jordan6 X0 X3 X4) \wedge (r1_jordan6 X0 X4 X1))) \wedge (\neg(r1_jordan6 \\ X0 X3 X4) \wedge (r1_jordan6 X0 X4 X1) \wedge (r1_jordan6 X0 X1 X2))) \wedge (\neg(r1_jordan6 \\ X0 X4 X1) \wedge (r1_jordan6 X0 X1 X2) \wedge (r1_jordan6 X0 X2 X3)))))))))) \end{aligned} \quad (3)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_topreal2\ X0)\wedge(m1_subset_1\ X0\ (k1_zfmisc_1\ (u1_struct_0 \\ & \quad (k15_euclid\ np_2))))))\Rightarrow(\forall X1.(m1_subset_1\ X1\ (u1_struct_0 \\ & \quad (k15_euclid\ np_2))))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (u1_struct_0 \\ & \quad (k15_euclid\ np_2))))\Rightarrow(\forall X3.(m1_subset_1\ X3\ (u1_struct_0 \\ & \quad (k15_euclid\ np_2))))\Rightarrow(\forall X4.(m1_subset_1\ X4\ (u1_struct_0 \\ & \quad (k15_euclid\ np_2))))\Rightarrow(((r1_jordan17\ X0\ X1\ X4\ X2\ X3)\wedge(r1_jordan17 \\ & \quad X0\ X4\ X1\ X2\ X3))\Rightarrow((X1 = X2)\vee((X1 = X3)\vee((X4 = X3)\vee(X1 = X4)))))) \end{aligned}$$