

t98_jordan (TMauqQvbMoi- WJqxT2BvCSc7ortTJKqEW54d)

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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 $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_connsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_jordan1 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Assume the following.

$$\forall X0.((v1_topreal2 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))))) \Rightarrow (v1_jordan1 X0) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow ((v1_jordan1 X0) \Leftrightarrow ((k3_subset_1 (u1_struct_0 (k15_euclid np_2)) X0 \neq k1_xboole_0) \wedge (\exists X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \wedge (\exists X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \wedge ((k3_subset_1 (u1_struct_0 (k15_euclid np_2)) X0 = k4_subset_1 (u1_struct_0 (k15_euclid np_2)) X1 X2) \wedge (r1_xboole_0 X1 X2) \wedge ((k7_subset_1 (u1_struct_0 (k15_euclid np_2)) (k2_pre_topc (k15_euclid np_2)) X1) X1 = k7_subset_1 (u1_struct_0 (k15_euclid np_2)) (k2_pre_topc (k15_euclid np_2)) X2) X2) \wedge (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 (k1_pre_topc (k15_euclid np_2)) (k3_subset_1 (u1_struct_0 (k15_euclid np_2)) X0)))))) \Rightarrow (\forall X4.(m1_subset_1 X4 (k1_zfmisc_1 (u1_struct_0 (k1_pre_topc (k15_euclid np_2)) (k3_subset_1 (u1_struct_0 (k15_euclid np_2)) X0)))))) \Rightarrow (((X3 = X1) \wedge (X4 = X2)) \Rightarrow ((v3_connsp_1 X3 (k1_pre_topc (k15_euclid np_2)) (k3_subset_1 (u1_struct_0 (k15_euclid np_2)) X0)) \wedge (v3_connsp_1 X4 (k1_pre_topc (k15_euclid np_2)) (k3_subset_1 (u1_struct_0 (k15_euclid np_2)) X0)))))))))) \end{aligned} \quad (2)$$

Theorem 1

$$\begin{aligned} \forall X0.((v1_topreal2\ X0)\wedge(m1_subset_1\ X0\ (k1_zfmisc_1\ (u1_struct_0 \\ (k15_euclid\ np_2))))))\Rightarrow(\exists X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ (u1_struct_0\ (k15_euclid\ np_2))))\wedge(\exists X2.(m1_subset_1 \\ X2\ (k1_zfmisc_1\ (u1_struct_0\ (k15_euclid\ np_2))))\wedge((k3_subset_1 \\ (u1_struct_0\ (k15_euclid\ np_2))\ X0 = k4_subset_1\ (u1_struct_0 \\ (k15_euclid\ np_2))\ X1\ X2)\wedge((r1_xboole_0\ X1\ X2)\wedge((k7_subset_1 \\ (u1_struct_0\ (k15_euclid\ np_2))\ (k2_pre_topc\ (k15_euclid\ np_2) \\ X1)\ X1 = k7_subset_1\ (u1_struct_0\ (k15_euclid\ np_2))\ (k2_pre_topc \\ (k15_euclid\ np_2)\ X2)\ X2)\wedge(\forall X3.(m1_subset_1\ X3\ (k1_zfmisc_1 \\ (u1_struct_0\ (k1_pre_topc\ (k15_euclid\ np_2))\ (k3_subset_1\ (u1_struct_0 \\ (k15_euclid\ np_2))\ X0))))))\Rightarrow(\forall X4.(m1_subset_1\ X4\ (k1_zfmisc_1 \\ (u1_struct_0\ (k1_pre_topc\ (k15_euclid\ np_2))\ (k3_subset_1\ (u1_struct_0 \\ (k15_euclid\ np_2))\ X0))))))\Rightarrow(((X3 = X1)\wedge(X4 = X2))\Rightarrow((v3_connsp_1 \\ X3\ (k1_pre_topc\ (k15_euclid\ np_2))\ (k3_subset_1\ (u1_struct_0 \\ (k15_euclid\ np_2))\ X0))\wedge(v3_connsp_1\ X4\ (k1_pre_topc\ (k15_euclid \\ np_2)\ (k3_subset_1\ (u1_struct_0\ (k15_euclid\ np_2))\ X0)))))))))) \end{aligned}$$