

t15_brouwer

(TMNv82aMNaPou9HkBCFbpURkYo3mJyppPeD)

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Let $v3_xreal_0 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_brouwer : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_abian : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_rset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $r1_abian : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v3_xreal_0 X0) \wedge (v1_xreal_0 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2))) \Rightarrow (\forall X2. \\ & ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 (k2_brouwer np_2 \\ & X1 X0)) (u1_struct_0 (k2_brouwer np_2 X1 X0))) \wedge ((v5_pre_topc \\ & X2 (k2_brouwer np_2 X1 X0) (k2_brouwer np_2 X1 X0)) \wedge (m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 (k2_brouwer np_2 X1 \\ & X0)) (u1_struct_0 (k2_brouwer np_2 X1 X0)))))) \Rightarrow (v2_abian X2))) \quad (3) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 \\ & X1 X2 X3 = k1_funct_1 X2 X3) \quad (4) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (5)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(v1_xboole_0 (k9_xtuple_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(m1_subset_1 (k1_relset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge(v1_funct_1 X0))\Rightarrow((v2_abian X0)\Leftrightarrow(\exists X1.r1_abian X1 X0)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v1_funct_1 X1))\Rightarrow((r1_abian X0 X1)\Leftrightarrow((X0 \in k9_xtuple_0 X1)\wedge(X0 = k1_funct_1 X1 X0))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(v1_xboole_0 X0)\Rightarrow(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_xboole_0 X2)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (12)$$

Theorem 1

$$\begin{aligned} &\forall X0.((\neg v3_xxreal_0 X0)\wedge(v1_xreal_0 X0))\Rightarrow(\forall X1. \\ &\quad (m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2)))\Rightarrow(\forall X2. \\ &\quad ((v1_funct_1 X2)\wedge((v1_funct_2 X2 (u1_struct_0 (k2_brouwer np_2 \\ &\quad X1 X0)) (u1_struct_0 (k2_brouwer np_2 X1 X0)))\wedge((v5_pre_topc \\ &\quad X2 (k2_brouwer np_2 X1 X0) (k2_brouwer np_2 X1 X0))\wedge(m1_subset_1 \\ &\quad X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 (k2_brouwer np_2 X1 \\ &\quad X0)) (u1_struct_0 (k2_brouwer np_2 X1 X0))))))\Rightarrow(\exists X3. \\ &\quad (m1_subset_1 X3 (u1_struct_0 (k2_brouwer np_2 X1 X0))\wedge(k3_funct_2 \\ &\quad (u1_struct_0 (k2_brouwer np_2 X1 X0)) (u1_struct_0 (k2_brouwer \\ &\quad np_2 X1 X0)) X2 X3 = X3)))) \end{aligned}$$