

t3_borsuk_5

(TMM9Z7VUUWWTaPDxMx8jMfMxsvySSWMcesPZ)

October 27, 2020

Let $r4_zfmisc.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_card.1 : \iota \Rightarrow \iota$ be given. Let $k4_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_6 : \iota$ be given. Let $r3_zfmisc.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_5 : \iota$ be given. Let $v1_finset.1 : \iota \Rightarrow o$ be given. Let $k2_xboole.0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k2_nat.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ 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 $m1_subset.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_xcmplx.0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(r3_zfmisc.1 \ X0 \ X1 \ X2 \ X3 \ X4) \Rightarrow (k5_card.1 \ (k3_enumset1 \ X0 \ X1 \ X2 \ X3 \ X4) = np_5) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(v1_finset.1 \ X1) \Rightarrow ((\neg X0 \in X1) \Rightarrow (k5_card.1 \ (k2_xboole.0 \ X1 \ (k1_tarski \ X0)) = k2_nat.1 \ (k5_card.1 \ X1) \ np_1)) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \ k4_enumset1 \ X0 \ X1 \ X2 \ X3 \ X4 \ X5 = k2_xboole.0 \ (k3_enumset1 \ X0 \ X1 \ X2 \ X3 \ X4) \ (k1_tarski \ X5) \quad (3)$$

Assume the following.

$$((v2_xxreal.0 \ np_5) \wedge (m2_subset.1 \ np_5 \ k1_numbers \ k5_numbers)) \wedge ((m1_subset.1 \ np_5 \ k5_numbers) \wedge (m1_subset.1 \ np_5 \ k1_numbers)) \quad (4)$$

Assume the following.

$$((v2_xxreal.0 \ np_1) \wedge (m2_subset.1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge ((m1_subset.1 \ np_1 \ k5_numbers) \wedge (m1_subset.1 \ np_1 \ k1_numbers)) \quad (5)$$

Assume the following.

$$k2_xcmplx_0 \ np_1 \ np_5 = np_6 \quad (6)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 \ X0 \ k5_numbers)\wedge(v7_ordinal1 \ X1))\Rightarrow(k2_nat_1 \ X0 \ X1 = k2_xcmplx_0 \ X0 \ X1) \quad (8)$$

Assume the following.

$$v6_membered \ k4_ordinal1 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.v1_finset_1 \ (k3_enumset1 \ X0 \ X1 \ X2 \ X3 \ X4) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & (r4_zfmisc_1 \ X0 \ X1 \ X2 \ X3 \ X4 \ X5)\Leftrightarrow(((X0\neq X1)\wedge((X0\neq X2)\wedge((X0\neq X3)\wedge((X0\neq X4)\wedge((X0\neq X5)\wedge((X1\neq X2)\wedge((X1\neq X3)\wedge((X1\neq X4)\wedge((X1\neq X5)\wedge((X2\neq X3)\wedge((X2\neq X4)\wedge((X2\neq X5)\wedge((X3\neq X4)\wedge((X3\neq X5)\wedge(X4\neq X5)))))))))))))) \quad (11) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(r3_zfmisc_1 \\ & \ X0 \ X1 \ X2 \ X3 \ X4)\Leftrightarrow(((X0\neq X1)\wedge((X0\neq X2)\wedge((X0\neq X3)\wedge((X0\neq X4)\wedge((X1\neq X2)\wedge((X1\neq X3)\wedge((X1\neq X4)\wedge((X2\neq X3)\wedge((X2\neq X4)\wedge(X3\neq X4)))))))))) \quad (12) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & (X5 = k3_enumset1 \ X0 \ X1 \ X2 \ X3 \ X4)\Leftrightarrow(\forall X6.(X6 \in X5)\Leftrightarrow(\neg(X6\neq X0)\wedge((X6\neq X1)\wedge((X6\neq X2)\wedge((X6\neq X3)\wedge(X6\neq X4)))))) \quad (13) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 \ X0 \ k5_numbers)\wedge(v7_ordinal1 \ X1))\Rightarrow(k2_nat_1 \ X0 \ X1 = k2_nat_1 \ X1 \ X0) \quad (14)$$

Assume the following.

$$\forall X0.(v6_membered \ X0)\Rightarrow(\forall X1.(m1_subset_1 \ X1 \ X0)\Rightarrow(v7_ordinal1 \ X1)) \quad (15)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & (r4_zfmisc_1 \ X0 \ X1 \ X2 \ X3 \ X4 \ X5)\Rightarrow(k5_card_1 \ (k4_enumset1 \ X0 \ X1 \ X2 \ X3 \\ & \ X4 \ X5) = np_6) \end{aligned}$$