

## t69\_borsuk\_5

(TMYAZ4fBYBTBKwmx2zXUmj8WFu1ReynXG7G)

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Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k3\_rcomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xxreal\_0 : \iota$  be given. Let  $k1\_seq\_4 : \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k2\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $k5\_numbers : \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $v1\_rat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $v5\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X2)) \Rightarrow \\ & (r1\_xxreal\_0 X0 X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow ((X1 \in k2\_xxreal\_1 X0 k1\_xxreal\_0) \Leftrightarrow (r1\_xxreal\_0 X0 X1))) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\neg r1\_xxreal\_0 X0 (k6\_xcmplx\_0 X0 np\_1)) \quad (5)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)))\Rightarrow(k4\_subset\_1 X0 X1 X2 = k2\_xboole\_0 X1 X2) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0)\wedge(v1\_xxreal\_0 X1))\Rightarrow(k3\_rcomp\_1 X0 X1 = k2\_xxreal\_1 X0 X1) \quad (8)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(k1\_seq\_4 X0 = k1\_tarski X0) \quad (9)$$

Assume the following.

$$\exists X0.(v1\_xcmplx\_0 X0)\wedge((v1\_xreal\_0 X0)\wedge((v1\_xxreal\_0 X0)\wedge(\neg v1\_rat\_1 X0))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0)\wedge(v1\_xreal\_0 X1))\Rightarrow(v1\_xreal\_0 (k6\_xcmplx\_0 X0 X1)) \quad (11)$$

Assume the following.

$$v1\_xxreal\_0 k1\_xxreal\_0 \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0)\wedge(v1\_xxreal\_0 X1))\Rightarrow(m1\_subset\_1 (k3\_rcomp\_1 X0 X1) (k1\_zfmisc\_1 k1\_numbers)) \quad (13)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(m1\_subset\_1 (k1\_seq\_4 X0) (k1\_zfmisc\_1 k1\_numbers)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2\_xboole\_0 X0 X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow((X3 \in X0)\vee(X3 \in X1))) \quad (15)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Leftrightarrow(X0 \in k1\_numbers) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1\_tarski X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow(X2 = X0)) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0)\wedge(v1\_xreal\_0 X1))\Rightarrow( (r1\_xreal\_0 X0 X1)\vee(r1\_xreal\_0 X1 X0)) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0 X0 X1 = k2\_xboole\_0 X1 X0 \quad (19)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xreal\_0 X0) \quad (20)$$

Assume the following.

$$\forall X0.(v1\_int\_1 X0)\Rightarrow(v1\_rat\_1 X0) \quad (21)$$

Assume the following.

$$\forall X0.(v6\_membered X0)\Rightarrow(v5\_membered X0) \quad (22)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0)\Rightarrow(v6\_membered X0) \quad (23)$$

Assume the following.

$$\forall X0.(v5\_membered X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow (v1\_int\_1 X1)) \quad (24)$$

**Theorem 1**

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(\forall X1.(v1\_xreal\_0 X1)\Rightarrow(k4\_subset\_1 k1\_numbers (k3\_rcomp\_1 X0 k1\_xreal\_0) (k1\_seq\_4 X1)\neq k1\_numbers))$$