

## t36\_borsuk\_4

(TMJcj1WzsNTwDMz9V8QQjj2ZmzAS7uwZUAM)

October 27, 2020

Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k5\_topmetr : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k4\_rcomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_borsuk\_4 : \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k17\_borsuk\_1 : \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k3\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $np\_0 : \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v3\_topmetr : \iota \Rightarrow o$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v2\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (1)$$

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.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (((r1\_xxreal\_0 k6\_numbers X0) \wedge (r1\_xxreal\_0 X0 np\_1)) \Leftrightarrow (X0 \in u1\_struct\_0 k17\_borsuk\_1)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow ((X0 \in u1\_struct\_0 k1\_borsuk\_4) \Leftrightarrow ((\neg r1\_xxreal\_0 X0 k6\_numbers) \wedge (\neg r1\_xxreal\_0 np\_1 X0))) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow ((X0 \in k3\_xxreal\_1 X1 X2) \Leftrightarrow ((\neg r1\_xxreal\_0 X0 X1) \wedge \\ & (r1\_xxreal\_0 X0 X2)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X2)) \Rightarrow \\ & (r1\_xxreal\_0 X0 X2)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee \\ & (X0 \in X1)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (( \\ & (r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X0)) \Rightarrow (X0 = X1))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \end{aligned} \quad (10)$$

Assume the following.

$$v1\_xboole\_0 np\_0 \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow ( \\ & r1\_xxreal\_0 X0 X0) \end{aligned} \quad (12)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (13)$$

Assume the following.

$$k5\_topmetr = k17\_borsuk\_1 \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow (k4\_rcomp\_1 \\ & X0 X1 = k3\_xxreal\_1 X0 X1) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & \exists X0.(v1\_xboole\_0 X0) \wedge ((v1\_xcmplx\_0 X0) \wedge ((v1\_xxreal\_0 \\ & X0) \wedge (v1\_xxreal\_0 X0))) \end{aligned} \quad (16)$$

Assume the following.

$$(\neg v2\_struct\_0\ k17\_borsuk\_1) \wedge ((v1\_pre\_topc\ k17\_borsuk\_1) \wedge (v2\_pre\_topc\ k17\_borsuk\_1)) \quad (17)$$

Assume the following.

$$\forall X0. ((v3\_topmetr\ X0) \wedge (l1\_struct\_0\ X0)) \Rightarrow (v3\_membered\ (u1\_struct\_0\ X0)) \quad (18)$$

Assume the following.

$$v3\_topmetr\ k17\_borsuk\_1 \quad (19)$$

Assume the following.

$$v3\_membered\ k1\_numbers \quad (20)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0\ X0) \wedge (l1\_struct\_0\ X0)) \Rightarrow (\neg v1\_xboole\_0\ (u1\_struct\_0\ X0)) \quad (21)$$

Assume the following.

$$\forall X0. (l1\_pre\_topc\ X0) \Rightarrow (l1\_struct\_0\ X0) \quad (22)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_xxreal\_0\ X0) \wedge (v1\_xxreal\_0\ X1)) \Rightarrow (m1\_subset\_1\ (k4\_rcomp\_1\ X0\ X1)\ (k1\_zfmisc\_1\ k1\_numbers)) \quad (23)$$

Assume the following.

$$l1\_pre\_topc\ k17\_borsuk\_1 \quad (24)$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski\ X0\ X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (25)$$

Assume the following.

$$\forall X0. (v1\_xxreal\_0\ X0) \Rightarrow (v1\_xxreal\_0\ X0) \quad (26)$$

Assume the following.

$$\forall X0. (v3\_membered\ X0) \Rightarrow (v2\_membered\ X0) \quad (27)$$

Assume the following.

$$\forall X0. (m1\_subset\_1\ X0\ k1\_numbers) \Rightarrow (v1\_xxreal\_0\ X0) \quad (28)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (v1\_xboole\_0 X1)) \quad (29)$$

Assume the following.

$$\forall X0.(v3\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v1\_xreal\_0 X1)) \quad (30)$$

Assume the following.

$$\forall X0.(v2\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v1\_xxreal\_0 X1)) \quad (31)$$

**Theorem 1**

$$\forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 k5\_topmetr)) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 k5\_topmetr)) \Rightarrow (\neg(\neg r1\_xxreal\_0 X1 X0) \wedge ((X1 \neq np\_1) \wedge (\neg(\neg v1\_xboole\_0 (k4\_rcomp\_1 X0 X1)) \wedge (m1\_subset\_1 (k4\_rcomp\_1 X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 k1\_borsuk\_4))))))))$$