

t31\_borsuk\_4 (TMUoRd-  
pDmH4jXBxxhLMKLLZXUt4gkFzo4BL)

October 27, 2020

Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v2\_connsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_topmetr : \iota$  be given. Let  $v2\_compts\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_rcomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_measure5 : \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k17\_borsuk\_1 : \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (1)$$

Assume the following.

$$\forall X0. ((\neg v1\_xboole\_0 X0) \wedge ((v2\_connsp\_1 X0 k5\_topmetr) \wedge ((v2\_compts\_1 X0 k5\_topmetr) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 k5\_topmetr)))))) \Rightarrow ((\neg v1\_xboole\_0 X0) \wedge ((v2\_measure5 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 k1\_numbers)))) \quad (2)$$

Assume the following.

$$\forall X0. (v1\_xxreal\_0 X0) \Rightarrow (\forall X1. (v1\_xxreal\_0 X1) \Rightarrow (\forall X2. (v1\_xxreal\_0 X2) \Rightarrow ((X0 \in k1\_xxreal\_1 X1 X2) \Leftrightarrow ((r1\_xxreal\_0 X1 X0) \wedge (r1\_xxreal\_0 X0 X2)))))) \quad (3)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 X0 (k1\_zfmisc\_1 k1\_numbers)) \Rightarrow (((\neg v1\_xboole\_0 X0) \wedge (v2\_measure5 X0)) \Leftrightarrow (\exists X1. (m1\_subset\_1 X1 k1\_numbers) \wedge (\exists X2. (m1\_subset\_1 X2 k1\_numbers) \wedge ((r1\_xxreal\_0 X1 X2) \wedge (X0 = k1\_rcomp\_1 X1 X2)))))) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow (r1\_xxreal\_0 X0 X0) \quad (5)$$

Assume the following.

$$k5\_topmetr = k17\_borsuk\_1 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0)\wedge(v1\_xreal\_0 X1))\Rightarrow(k1\_rcomp\_1 X0 X1 = k1\_xxreal\_1 X0 X1) \quad (7)$$

Assume the following.

$$v3\_membered k1\_numbers \quad (8)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 k1\_numbers))\Rightarrow((v2\_measure5 X0)\Leftrightarrow(\exists X1.(v1\_xreal\_0 X1)\wedge(\exists X2.(v1\_xreal\_0 X2)\wedge(X0 = k1\_rcomp\_1 X1 X2)))) \quad (9)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xxreal\_0 X0) \quad (10)$$

Assume the following.

$$\forall X0.(v3\_membered X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow(v1\_xreal\_0 X1)) \quad (11)$$

**Theorem 1**

$$\forall X0.((\neg v1\_xboole\_0 X0)\wedge((v2\_connsp\_1 X0 k5\_topmetr)\wedge((v2\_compts\_1 X0 k5\_topmetr)\wedge(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 k5\_topmetr))))))\Rightarrow(\exists X1.(m1\_subset\_1 X1 (u1\_struct\_0 k5\_topmetr))\wedge(\exists X2.(m1\_subset\_1 X2 (u1\_struct\_0 k5\_topmetr))\wedge((r1\_xxreal\_0 X1 X2)\wedge(X0 = k1\_rcomp\_1 X1 X2))))$$