t19_borsuk_6 (TMNei3nSbQEXJ22TajCS3nH9JPtTgxkhsHT)

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Let $v4\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$ 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 $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k17\_euclid : \iota \Rightarrow \iota$ be given. Let $k18\_euclid : \iota \Rightarrow \iota$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ 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 $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $v6\_membered : \iota \Rightarrow o$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $v2\_pre\_topc : \iota \Rightarrow o$ be given. Let $v13\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v2\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v3\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v4\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v5\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v6\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v7\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v8\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v5\_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1\_pre\_topc : \iota \Rightarrow o$ be given. Let $l1\_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1\_rlvect\_1 : \iota \Rightarrow o$ be given. Assume the following.

$$(v4\_pre\_topc\ (ReplSep\ (toset\ (\lambda X0 : \iota.m1\_subset\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))\ (\lambda X0 : \iota.r1\_xxreal\_0\ (k9\_real\_1\ np\_\_1\ (k8\_real\_1\ np\_\_2\ (k17\_euclid\ X0)))\ (k18\_euclid\ X0))\ (\lambda X0 : \iota.\ X0))\ (k15\_euclid\ np\_\_2)) \wedge (m1\_subset\_1\ (ReplSep\ (toset\ (\lambda X0 : \iota.m1\_subset\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))\ (\lambda X0 : \iota.r1\_xxreal\_0\ (k9\_real\_1\ np\_\_1\ (k8\_real\_1\ np\_\_2\ (k17\_euclid\ X0)))\ (k18\_euclid\ X0))\ (\lambda X0 : \iota.X0))\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2)))) \tag{1}$$

Assume the following.

$$(v4\_pre\_topc\ (ReplSep\ (toset\ (\lambda X0 : \iota.m1\_subset\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))\ (\lambda X0 : \iota.r1\_xxreal\_0\ (k9\_real\_1\ (k8\_real\_1\ np\_\_2\ (k17\_euclid\ X0))\ np\_\_1)\ (k18\_euclid\ X0))\ (\lambda X0 : \iota.X0))\ (k15\_euclid\ np\_\_2)) \wedge (m1\_subset\_1\ (ReplSep\ (toset\ (\lambda X0 : \iota.m1\_subset\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))\ (\lambda X0 : \iota.r1\_xxreal\_0\ (k9\_real\_1\ (k8\_real\_1\ np\_\_2\ (k17\_euclid\ X0))\ np\_\_1)\ (k18\_euclid\ X0))\ (\lambda X0 : \iota.X0))\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2)))) \tag{2}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_2)\wedge(m2\_subset\_1\ np\_\_2\ k1\_numbers\ k5\_numbers))\wedge((m1\_subset\_1\ np\_\_2\ k5\_numbers)\wedge(m1\_subset\_1\ np\_\_2\ k1\_numbers)) \tag{3}$$

Assume the following.

$$\forall X0:\iota\Rightarrow o.\forall X1:\iota\Rightarrow o.\forall X2.ReplSep\ (toset\ (\lambda X3:\iota.m1\_subset\_1\ X3\ X2))\ (\lambda X3:\iota.(X1\ X3)\wedge(X0\ X3))\ (\lambda X3:\iota.X3) = k3\_xboole\_0\ (ReplSep\ (toset\ (\lambda X3:\iota.m1\_subset\_1\ X3\ X2))\ (\lambda X3:\iota.X1\ X3)\ (\lambda X3:\iota.X3))\ (ReplSep\ (toset\ (\lambda X3:\iota.m1\_subset\_1\ X3\ X2))\ (\lambda X3:\iota.X0\ X3)\ (\lambda X3:\iota.X3)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0))\Rightarrow(k9\_subset\_1\ X0\ X1\ X2 = k3\_xboole\_0\ X1\ X2) \tag{5}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{6}$$

Assume the following.

$$v6\_membered\ k4\_ordinal1 \tag{7}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow((v2\_pre\_topc\ (k15\_euclid\ X0))\wedge((v13\_algstr\_0\ (k15\_euclid\ X0))\wedge((v2\_rlvect\_1\ (k15\_euclid\ X0))\wedge((v3\_rlvect\_1\ (k15\_euclid\ X0))\wedge((v4\_rlvect\_1\ (k15\_euclid\ X0))\wedge((v5\_rlvect\_1\ (k15\_euclid\ X0))\wedge((v6\_rlvect\_1\ (k15\_euclid\ X0))\wedge((v7\_rlvect\_1\ (k15\_euclid\ X0))\wedge((v8\_rlvect\_1\ (k15\_euclid\ X0))\wedge(v5\_rltopsp1\ (k15\_euclid\ X0))))))))))) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0))\wedge(((v4\_pre\_topc\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\wedge((v4\_pre\_topc\ X2\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))))\Rightarrow(v4\_pre\_topc\ (k3\_xboole\_0\ X1\ X2)\ X0) \tag{9}$$

Assume the following.

$$\forall X0.(l1\_rltopsp1\ X0)\Rightarrow((l1\_rlvect\_1\ X0)\wedge(l1\_pre\_topc\ X0)) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0))\Rightarrow(m1\_subset\_1\ (k9\_subset\_1\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ X0)) \tag{11}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow ((v5\_rltopsp1\ (k15\_euclid\ X0)) \wedge (l1\_rltopsp1\ (k15\_euclid\ X0))) \tag{12}$$

Assume the following.

$$\forall X0.(v6\_membered\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ X0) \Rightarrow (v7\_ordinal1\ X1)) \tag{13}$$

Theorem 1

$$(v4\_pre\_topc\ (ReplSep\ (toset\ (\lambda X0 : \iota.m1\_subset\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))\ (\lambda X0 : \iota.(r1\_xxreal\_0\ (k9\_real\_1\ np\_\_1\ (k8\_real\_1\ np\_\_2\ (k17\_euclid\ X0)))\ (k18\_euclid\ X0)) \wedge (r1\_xxreal\_0\ (k9\_real\_1\ (k8\_real\_1\ np\_\_2\ (k17\_euclid\ X0))\ np\_\_1)\ (k18\_euclid\ X0)))\ (\lambda X0 : \iota.X0))\ (k15\_euclid\ np\_\_2)) \wedge (m1\_subset\_1\ (ReplSep\ (toset\ (\lambda X0 : \iota.m1\_subset\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))\ (\lambda X0 : \iota.(r1\_xxreal\_0\ (k9\_real\_1\ np\_\_1\ (k8\_real\_1\ np\_\_2\ (k17\_euclid\ X0)))\ (k18\_euclid\ X0)) \wedge (r1\_xxreal\_0\ (k9\_real\_1\ (k8\_real\_1\ np\_\_2\ (k17\_euclid\ X0))\ np\_\_1)\ (k18\_euclid\ X0)))\ (\lambda X0 : \iota.X0))\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))$$