t24_borsuk_1 (TMbdTyjRKudvGJmChUZUnrL1pA7p1jnxupc)

October 27, 2020

Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v2\_pre\_topc : \iota \Rightarrow o$ be given. Let $l1\_pre\_topc : \iota \Rightarrow o$ 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 $k3\_borsuk\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_borsuk\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_setfam\_1 : \iota \Rightarrow \iota$ be given. Let $k8\_borsuk\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_borsuk\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_mcart\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_3 : \iota \Rightarrow \iota$ be given. Let $k9\_funct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10\_funct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_funct\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ X1)) \Rightarrow ((k8\_mcart\_1\ X0\ X1\ X2\ X3 \neq k1\_xboole\_0) \Rightarrow ((k1\_funct\_1\ (k1\_funct\_3\ (k9\_funct\_3\ X0\ X1))\ (k8\_mcart\_1\ X0\ X1\ X2\ X3) = X2) \wedge (k1\_funct\_1\ (k1\_funct\_3\ (k10\_funct\_3\ X0\ X1))\ (k8\_mcart\_1\ X0\ X1\ X2\ X3) = X3)))) \tag{1}$$

Assume the following.

$$\forall X0.k9\_setfam\_1\ X0 = k1\_zfmisc\_1\ X0 \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0)) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ X1))) \Rightarrow (k8\_mcart\_1\ X0\ X1\ X2\ X3 = k2\_zfmisc\_1\ X2\ X3) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0) \wedge (((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ X0\ X1) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))) \wedge (m1\_subset\_1\ X3\ X0))) \Rightarrow (k3\_funct\_2\ X0\ X1\ X2\ X3 = k1\_funct\_1\ X2\ X3) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((v2\_pre\_topc\ X0)\wedge (l1\_pre\_topc\ X0))\wedge(((v2\_pre\_topc\ X1)\wedge(l1\_pre\_topc\ X1))\wedge((m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X1))))))\Rightarrow(k3\_borsuk\_1\ X0\ X1\ X2\ X3 = k2\_zfmisc\_1\ X2\ X3) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X1)\wedge((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ X1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))))\Rightarrow(k2\_funct\_3\ X0\ X1\ X2 = k1\_funct\_3\ X2) \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow(\exists X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\wedge((\neg v1\_xboole\_0\ X1)\wedge(v4\_pre\_topc\ X1\ X0))) \tag{7}$$

Assume the following.

$$\forall X0.\neg v1\_xboole\_0\ (k1\_zfmisc\_1\ X0) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_funct\_1\ (k9\_funct\_3\ X0\ X1))\wedge((v1\_funct\_2\ (k9\_funct\_3\ X0\ X1)\ (k2\_zfmisc\_1\ X0\ X1)\ X0)\wedge(m1\_subset\_1\ (k9\_funct\_3\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)\ X0)))) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\wedge((\neg v2\_struct\_0\ X1)\wedge((v2\_pre\_topc\ X1)\wedge(l1\_pre\_topc\ X1))))\Rightarrow((v1\_funct\_1\ (k9\_borsuk\_1\ X0\ X1))\wedge((v1\_funct\_2\ (k9\_borsuk\_1\ X0\ X1)\ (k9\_setfam\_1\ (u1\_struct\_0\ (k2\_borsuk\_1\ X0\ X1)))\ (k9\_setfam\_1\ (u1\_struct\_0\ X1)))\wedge(m1\_subset\_1\ (k9\_borsuk\_1\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k9\_setfam\_1\ (u1\_struct\_0\ (k2\_borsuk\_1\ X0\ X1)))\ (k9\_setfam\_1\ (u1\_struct\_0\ X1))))))) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\wedge((\neg v2\_struct\_0\ X1)\wedge((v2\_pre\_topc\ X1)\wedge(l1\_pre\_topc\ X1))))\Rightarrow((v1\_funct\_1\ (k8\_borsuk\_1\ X0\ X1))\wedge((v1\_funct\_2\ (k8\_borsuk\_1\ X0\ X1)\ (k9\_setfam\_1\ (u1\_struct\_0\ (k2\_borsuk\_1\ X0\ X1)))\ (k9\_setfam\_1\ (u1\_struct\_0\ X0)))\wedge(m1\_subset\_1\ (k8\_borsuk\_1\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k9\_setfam\_1\ (u1\_struct\_0\ (k2\_borsuk\_1\ X0\ X1)))\ (k9\_setfam\_1\ (u1\_struct\_0\ X0))))))) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((v2\_pre\_topc\ X0)\wedge (l1\_pre\_topc\ X0))\wedge(((v2\_pre\_topc\ X1)\wedge(l1\_pre\_topc\ X1))\wedge((m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X1))))))\Rightarrow(m1\_subset\_1\ (k3\_borsuk\_1\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k2\_borsuk\_1\ X0\ X1)))) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_funct\_1\ (k10\_funct\_3\ X0\ X1))\wedge((v1\_funct\_2\ (k10\_funct\_3\ X0\ X1)\ (k2\_zfmisc\_1\ X0\ X1)\ X1)\wedge(m1\_subset\_1\ (k10\_funct\_3\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)\ X1)))) \tag{13}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v2\_pre\_topc\ X1)\wedge(l1\_pre\_topc\ X1)))\Rightarrow(k9\_borsuk\_1\ X0\ X1 = k2\_funct\_3\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))\ (u1\_struct\_0\ X1)\ (k10\_funct\_3\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)))) \tag{14}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v2\_pre\_topc\ X1)\wedge(l1\_pre\_topc\ X1)))\Rightarrow(k8\_borsuk\_1\ X0\ X1 = k2\_funct\_3\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))\ (u1\_struct\_0\ X0)\ (k9\_funct\_3\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)))) \tag{15}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_xboole\_0\ X1)) \tag{16}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v2\_pre\_topc\ X1)\wedge(l1\_pre\_topc\ X1)))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X1)))\Rightarrow((k3\_borsuk\_1\ X0\ X1\ X2\ X3\neq k1\_xboole\_0)\Rightarrow((k3\_funct\_2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k2\_borsuk\_1\ X0\ X1)))\ (k9\_setfam\_1\ (u1\_struct\_0\ X0))\ (k8\_borsuk\_1\ X0\ X1)\ (k3\_borsuk\_1\ X0\ X1\ X2\ X3) = X2)\wedge(k3\_funct\_2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k2\_borsuk\_1\ X0\ X1)))\ (k9\_setfam\_1\ (u1\_struct\_0\ X1))\ (k9\_borsuk\_1\ X0\ X1)\ (k3\_borsuk\_1\ X0\ X1\ X2\ X3) = X3)))))) $$