t91_tmap_1 (TMX6BXqPvGJDH7avwn4stsz2e8ALmaZqNRR)

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 $k5\_tmap\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $u1\_pre\_topc : \iota \Rightarrow \iota$ be given. Let $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_setfam\_1 : \iota \Rightarrow \iota$ be given. Let $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $k1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k5\_setfam\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ X1)) \Leftrightarrow (r1\_tarski\ X0\ X1) \tag{1}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0) \Rightarrow (m1\_pre\_topc\ X0\ X0) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ X0\ X1) \Rightarrow (k3\_xboole\_0\ X0\ X1 = X0) \tag{3}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0) \Rightarrow (\forall X1.(m1\_pre\_topc\ X1\ X0) \Rightarrow (m1\_subset\_1\ (u1\_struct\_0\ X1)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \tag{4}$$

Assume the following.

$$\forall X0.((v2\_pre\_topc\ X0) \wedge (l1\_pre\_topc\ X0)) \Rightarrow (k1\_xboole\_0 \in u1\_pre\_topc\ X0) \tag{5}$$

Assume the following.

$$\forall X0.k2\_xboole\_0\ X0\ k1\_xboole\_0 = X0 \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0))\Rightarrow(k9\_subset\_1\ X0\ X1\ X2 = k3\_xboole\_0\ X1\ X2) \tag{7}$$

Assume the following.

$$\forall X0.k9\_setfam\_1\ X0 = k1\_zfmisc\_1\ X0 \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0)))\Rightarrow(k4\_subset\_1\ X0\ X1\ X2 = k2\_xboole\_0\ X1\ X2) \tag{9}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{10}$$

Assume the following.

$$\forall X0.(l1\_struct\_0\ X0)\Rightarrow(m1\_subset\_1\ (k1\_struct\_0\ X0)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \tag{11}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow(k5\_tmap\_1\ X0\ X1 = ReplSep2\ (toset\ (\lambda X2 : \iota.m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\ (\lambda X2 : \iota.toset\ (\lambda X3 : \iota.m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\ (\lambda X2 : \iota.\lambda X3 : \iota.(X2 \in u1\_pre\_topc\ X0)\wedge(X3 \in u1\_pre\_topc\ X0))\ (\lambda X2 : \iota.\lambda X3 : \iota.k4\_subset\_1\ (u1\_struct\_0\ X0)\ X2\ (k9\_subset\_1\ (u1\_struct\_0\ X0)\ X3\ X1)))) \tag{12}$$

Assume the following.

$$k1\_xboole\_0 = the\ (\lambda X0 : \iota.v1\_xboole\_0\ X0) \tag{13}$$

Assume the following.

$$\forall X0.(l1\_struct\_0\ X0)\Rightarrow(k1\_struct\_0\ X0 = k1\_xboole\_0) \tag{14}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow((v2\_pre\_topc\ X0)\Leftrightarrow((u1\_struct\_0\ X0 \in u1\_pre\_topc\ X0)\wedge((\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow((r1\_tarski\ X1\ (u1\_pre\_topc\ X0))\Rightarrow(k5\_setfam\_1\ (u1\_struct\_0\ X0)\ X1 \in u1\_pre\_topc\ X0)))\wedge(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow(((X1 \in u1\_pre\_topc\ X0)\wedge(X2 \in u1\_pre\_topc\ X0))\Rightarrow(k9\_subset\_1\ (u1\_struct\_0\ X0)\ X1\ X2 \in u1\_pre\_topc\ X0))))))) \tag{15}$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0\ X0\ X1 = k3\_xboole\_0\ X1\ X0 \tag{16}$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0\ X0\ X1 = k2\_xboole\_0\ X1\ X0 \tag{17}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow(X1 \in k5\_tmap\_1\ X0\ X1))$$