t56_ec_pf_1 (TMb-dAHTcwW4LiHvwx9x8V13feYS4HnJa9YU)

October 27, 2020

Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3\_relat\_2 : \iota \Rightarrow o$ be given. Let $v8\_relat\_2 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8\_eqrel\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_card\_3 : \iota \Rightarrow \iota$ be given. Let $k5\_setfam\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_tarski : \iota \Rightarrow \iota$ be given. Let $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $m1\_eqrel\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ X0)))\Rightarrow(k5\_setfam\_1\ X0\ X1 = k3\_tarski\ X1) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge(v5\_relat\_1\ X1\ X0))\Rightarrow(k2\_relset\_1\ X0\ X1 = k10\_xtuple\_0\ X1) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_eqrel\_1\ X1\ X0)\Rightarrow(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ X0))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((v3\_relat\_2\ X1)\wedge((v8\_relat\_2\ X1)\wedge((v1\_partfun1\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0))))))\Rightarrow(m1\_eqrel\_1\ (k8\_eqrel\_1\ X0\ X1)\ X0) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ X0)))\Rightarrow((m1\_eqrel\_1\ X1\ X0)\Leftrightarrow((k5\_setfam\_1\ X0\ X1 = X0)\wedge(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0))\Rightarrow((X2 \in X1)\Rightarrow((X2 \neq k1\_xboole\_0)\wedge(\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ X0))\Rightarrow(\neg(X3 \in X1)\wedge((X2 \neq X3)\wedge(\neg r1\_xboole\_0\ X2\ X3)))))))))) \tag{5}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow(k3\_card\_3\ X0 = k3\_tarski\ (k10\_xtuple\_0\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge(v5\_relat\_1\ X1\ X0))\Rightarrow((v2\_funct\_2\ X1\ X0)\Leftrightarrow(k2\_relset\_1\ X0\ X1 = X0)) \tag{7}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v1\_partfun1\ X1\ X0)\wedge((v3\_relat\_2\ X1)\wedge((v8\_relat\_2\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0))))))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge((v5\_relat\_1\ X2\ (k8\_eqrel\_1\ X0\ X1))\wedge(v1\_funct\_1\ X2)))\Rightarrow((v2\_funct\_2\ X2\ (k8\_eqrel\_1\ X0\ X1))\Rightarrow(k3\_card\_3\ X2 = X0))))$$