l1_yellow12 (TMHyVjZmnS7922WHkrtYt6ewDXafVGM3VMb)

October 27, 2020

Let $k1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13\_funct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10\_funct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_funct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_funct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_funct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(k4\_tarski\ X0\ X1 \in k2\_zfmisc\_1\ X2\ X3) \Leftrightarrow ((X0 \in X2) \wedge (X1 \in X3)) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.k9\_funct\_3\ X0\ X1 = k7\_funct\_3\ X0\ X1 \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.k10\_funct\_3\ X0\ X1 = k8\_funct\_3\ X0\ X1 \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0\ X0\ X0 = X0 \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_funct\_1\ (k9\_funct\_3\ X0\ X1)) \wedge ((v1\_funct\_2\ (k9\_funct\_3\ X0\ X1)\ (k2\_zfmisc\_1\ X0\ X1)\ X0) \wedge (m1\_subset\_1\ (k9\_funct\_3\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)\ X0)))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1\ (k8\_funct\_3\ X0\ X1)) \wedge (v1\_funct\_1\ (k8\_funct\_3\ X0\ X1)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1\ (k7\_funct\_3\ X0\ X1))\wedge(v1\_funct\_1\ (k7\_funct\_3\ X0\ X1)) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\wedge((v1\_relat\_1\ X1)\wedge(v1\_funct\_1\ X1)))\Rightarrow((v1\_relat\_1\ (k13\_funct\_3\ X0\ X1))\wedge(v1\_funct\_1\ (k13\_funct\_3\ X0\ X1))) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_funct\_1\ (k10\_funct\_3\ X0\ X1))\wedge((v1\_funct\_2\ (k10\_funct\_3\ X0\ X1)\ (k2\_zfmisc\_1\ X0\ X1)\ X1)\wedge(m1\_subset\_1\ (k10\_funct\_3\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)\ X1)))) \tag{9}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow(\forall X1.((v1\_relat\_1\ X1)\wedge(v1\_funct\_1\ X1))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge(v1\_funct\_1\ X2))\Rightarrow((X2 = k13\_funct\_3\ X0\ X1)\Leftrightarrow((k9\_xtuple\_0\ X2 = k3\_xboole\_0\ (k9\_xtuple\_0\ X0)\ (k9\_xtuple\_0\ X1))\wedge(\forall X3.(X3 \in k9\_xtuple\_0\ X2)\Rightarrow(k1\_funct\_1\ X2\ X3 = k4\_tarski\ (k1\_funct\_1\ X0\ X3)\ (k1\_funct\_1\ X1\ X3))))))) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1\ X2)\wedge(v1\_funct\_1\ X2))\Rightarrow((X2 = k8\_funct\_3\ X0\ X1)\Leftrightarrow((k9\_xtuple\_0\ X2 = k2\_zfmisc\_1\ X0\ X1)\wedge(\forall X3.\forall X4.((X3 \in X0)\wedge(X4 \in X1))\Rightarrow(k1\_binop\_1\ X2\ X3\ X4 = X4)))) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1\ X2)\wedge(v1\_funct\_1\ X2))\Rightarrow((X2 = k7\_funct\_3\ X0\ X1)\Leftrightarrow((k9\_xtuple\_0\ X2 = k2\_zfmisc\_1\ X0\ X1)\wedge(\forall X3.\forall X4.((X3 \in X0)\wedge(X4 \in X1))\Rightarrow(k1\_binop\_1\ X2\ X3\ X4 = X3)))) \tag{12}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow(\forall X1.\forall X2.\ k1\_binop\_1\ X0\ X1\ X2 = k1\_funct\_1\ X0\ (k4\_tarski\ X1\ X2)) \tag{13}$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.\forall X3.((X2 \in X0)\wedge(X3 \in X1))\Rightarrow(k1\_binop\_1\ (k13\_funct\_3\ (k10\_funct\_3\ X0\ X1)\ (k9\_funct\_3\ X0\ X1))\ X2\ X3 = k4\_tarski\ X3\ X2)$$