t119_funct_2 (TMQCFVw66xTLjuanmcLWZqqCYU4Un6DpX79)

October 27, 2020

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 $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $k1\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k2\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_tarski : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ X1) \Rightarrow ((v1\_xboole\_0\ X1) \vee (X0 \in X1)) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1\ X1) \Rightarrow ((X0 \in X1) \Rightarrow (X0 = k4\_tarski\ (k1\_xtuple\_0\ X0)\ (k2\_xtuple\_0\ X0))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0) \wedge (((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ X0\ X1) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))) \wedge (m1\_subset\_1\ X3\ X0))) \Rightarrow (k3\_funct\_2\ X0\ X1\ X2\ X3 = k1\_funct\_1\ X2\ X3) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.v1\_relat\_1\ (k2\_zfmisc\_1\ X0\ X1) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge (\neg v1\_xboole\_0\ X1)) \Rightarrow (\neg v1\_xboole\_0\ (k2\_zfmisc\_1\ X0\ X1)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0)\wedge ((\neg v1\_xboole\_0\ X1)\wedge((\neg v1\_xboole\_0\ X2)\wedge((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ X0\ (k2\_zfmisc\_1\ X1\ X2))\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ (k2\_zfmisc\_1\ X1\ X2))))))))\Rightarrow((v1\_funct\_1\ (k5\_funct\_2\ X0\ X1\ X2\ X3))\wedge((v1\_funct\_2\ (k5\_funct\_2\ X0\ X1\ X2\ X3)\ X0\ X2)\wedge(m1\_subset\_1\ (k5\_funct\_2\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X2)))))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0)\wedge ((\neg v1\_xboole\_0\ X1)\wedge((\neg v1\_xboole\_0\ X2)\wedge((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ X0\ (k2\_zfmisc\_1\ X1\ X2))\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ (k2\_zfmisc\_1\ X1\ X2))))))))\Rightarrow((v1\_funct\_1\ (k4\_funct\_2\ X0\ X1\ X2\ X3))\wedge((v1\_funct\_2\ (k4\_funct\_2\ X0\ X1\ X2\ X3)\ X0\ X1)\wedge(m1\_subset\_1\ (k4\_funct\_2\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0)\wedge (((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ X1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))\wedge(m1\_subset\_1\ X3\ X0)))\Rightarrow(m1\_subset\_1\ (k3\_funct\_2\ X0\ X1\ X2\ X3)\ X1) \tag{8}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(\neg v1\_xboole\_0\ X1)\Rightarrow(\forall X2.(\neg v1\_xboole\_0\ X2)\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ X0\ (k2\_zfmisc\_1\ X1\ X2))\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ (k2\_zfmisc\_1\ X1\ X2))))))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ X0\ X2)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X2)))))\Rightarrow((X4 = k5\_funct\_2\ X0\ X1\ X2\ X3)\Leftrightarrow(\forall X5.(m1\_subset\_1\ X5\ X0)\Rightarrow(k3\_funct\_2\ X0\ X2\ X4\ X5 = k2\_xtuple\_0\ (k3\_funct\_2\ X0\ (k2\_zfmisc\_1\ X1\ X2)\ X3\ X5)))))))) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.k4\_tarski\ X0\ X1 = k2\_tarski\ (k2\_tarski\ X0\ X1)\ (k1\_tarski\ X0) \tag{10}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(\neg v1\_xboole\_0\ X1)\Rightarrow (\forall X2.(\neg v1\_xboole\_0\ X2)\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge ((v1\_funct\_2\ X3\ X0\ (k2\_zfmisc\_1\ X1\ X2))\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1 (k2\_zfmisc\_1\ X0\ (k2\_zfmisc\_1\ X1\ X2))))))\Rightarrow(\forall X4.((v1\_funct\_1 X4)\wedge((v1\_funct\_2\ X4\ X0\ X1)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 X0\ X1)))))\Rightarrow((X4 = k4\_funct\_2\ X0\ X1\ X2\ X3)\Leftrightarrow(\forall X5.(m1\_subset\_1 X5\ X0)\Rightarrow(k3\_funct\_2\ X0\ X1\ X4\ X5 = k1\_xtuple\_0\ (k3\_funct\_2\ X0\ (k2\_zfmisc\_1 X1\ X2)\ X3\ X5)))))))) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.k2\_tarski\ X0\ X1 = k2\_tarski\ X1\ X0 \tag{12}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(\neg v1\_xboole\_0\ X1)\Rightarrow (\forall X2.(\neg v1\_xboole\_0\ X2)\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge ((v1\_funct\_2\ X3\ X0\ (k2\_zfmisc\_1\ X1\ X2))\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1 (k2\_zfmisc\_1\ X0\ (k2\_zfmisc\_1\ X1\ X2))))))\Rightarrow(\forall X4.(m1\_subset\_1 X4\ X0)\Rightarrow(k3\_funct\_2\ X0\ (k2\_zfmisc\_1\ X1\ X2)\ X3\ X4 = k4\_tarski\ (k3\_funct\_2 X0\ X1\ (k4\_funct\_2\ X0\ X1\ X2\ X3)\ X4)\ (k3\_funct\_2\ X0\ X2\ (k5\_funct\_2\ X0 X1\ X2\ X3)\ X4))))))$$