

t27\_bvfunc14  
(TMM2SeU5V2cWmoeQ1MpCx6VvChAtgRy3Eik)

October 27, 2020

Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k16\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k2\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k7\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.k3\_enumset1 \\ X0\ X1\ X2\ X3\ X4 &= k2\_xboole\_0 (k1\_tarski\ X0)\ (k2\_enumset1\ X1\ X2\ X3\ X4) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.k2\_enumset1\ X0\ X1 \\ X2\ X3 &= k2\_xboole\_0 (k1\_enumset1\ X0\ X1\ X2)\ (k1\_tarski\ X3) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.k1\_enumset1\ X0\ X1\ X2 = k2\_xboole\_0 \\ & (k2\_tarski\ X0\ X1)\ (k1\_tarski\ X2) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.k2\_tarski\ X0\ X1 = k2\_xboole\_0 (k1\_tarski \\ & X0)\ (k1\_tarski\ X1) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(k9\_xtuple\_0 (k2\_funcop\_1\ X0\ X1) = X0) \wedge ( \\ & r1\_tarski (k10\_xtuple\_0 (k2\_funcop\_1\ X0\ X1))\ (k1\_tarski\ X1)) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.k7\_funcop\_1\ X0\ X1 = k2\_funcop\_1\ X0\ X1 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1 (k16\_funcop\_1 X0 X1))\wedge(v1\_funct\_1 (k16\_funcop\_1 X0 X1)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_funct\_1 (k7\_funcop\_1 X0 X1))\wedge((v1\_funct\_2 (k7\_funcop\_1 X0 X1) X0 (k1\_tarski X1))\wedge(m1\_subset\_1 (k7\_funcop\_1 X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 (k1\_tarski X1)))))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\wedge((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1)))\Rightarrow((v1\_relat\_1 (k1\_funct\_4 X0 X1))\wedge(v1\_funct\_1 (k1\_funct\_4 X0 X1))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.k16\_funcop\_1 X0 X1 = k7\_funcop\_1 (k1\_tarski X0) X1 \quad (10)$$

Assume the following.

$$\forall X0.(((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow(\forall X1.(((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1))\Rightarrow(\forall X2.(((v1\_relat\_1 X2)\wedge(v1\_funct\_1 X2))\Rightarrow((X2 = k1\_funct\_4 X0 X1)\Leftrightarrow((k9\_xtuple\_0 X2 = k2\_xboole\_0 (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X1))\wedge(\forall X3.(X3 \in k2\_xboole\_0 (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X1))\Rightarrow(((X3 \in k9\_xtuple\_0 X1)\Rightarrow(k1\_funct\_1 X2 X3 = k1\_funct\_1 X1 X3))\wedge((\neg X3 \in k9\_xtuple\_0 X1)\Rightarrow(k1\_funct\_1 X2 X3 = k1\_funct\_1 X0 X3))))))))))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0 X0 X1 = k2\_xboole\_0 X1 X0 \quad (12)$$

**Theorem 1**

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5.(((v1\_relat\_1 X5)\wedge(v1\_funct\_1 X5))\Rightarrow(\forall X6.\forall X7.\forall X8.\forall X9.\forall X10.(X5 = k1\_funct\_4 (k1\_funct\_4 (k1\_funct\_4 (k1\_funct\_4 (k16\_funcop\_1 X1 X7) (k16\_funcop\_1 X2 X8)) (k16\_funcop\_1 X3 X9)) (k16\_funcop\_1 X4 X10)) (k16\_funcop\_1 X0 X6))\Rightarrow(k9\_xtuple\_0 X5 = k3\_enumset1 X0 X1 X2 X3 X4)))$$