t39_bvfunc_2 (TM-RAd9fmDrw1cquXd7ZH2JG23n61khoTvCC)

October 27, 2020

Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_partit1 : \iota \Rightarrow \iota$ 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 $k6\_margrel1 : \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_eqrel\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3\_bvfunc\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_bvfunc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_bvfunc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_bvfunc\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_bvfunc\_2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_partit1\ X0))) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ X0\ k6\_margrel1) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k6\_margrel1))))) \Rightarrow (\forall X3.((v1\_funct\_1\ X3) \wedge ((v1\_funct\_2\ X3\ X0\ k6\_margrel1) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k6\_margrel1))))) \Rightarrow (\forall X4.(m1\_eqrel\_1\ X4\ X0) \Rightarrow ((r3\_bvfunc\_2\ X0\ X2\ X1\ X4) \Rightarrow (r1\_bvfunc\_1\ X0\ (k6\_bvfunc\_1\ X0\ X2\ (k7\_bvfunc\_2\ X0\ X3\ X1\ X4))\ (k7\_bvfunc\_2\ X0\ (k6\_bvfunc\_1\ X0\ X2\ X3)\ X1\ X4)))))))) \tag{1}$$

Assume the following.

$$\forall X0.k1\_bvfunc\_2\ X0 = k1\_partit1\ X0 \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0) \wedge (((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ X0\ k6\_margrel1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k6\_margrel1))))) \wedge ((m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k1\_bvfunc\_2\ X0))) \wedge (m1\_eqrel\_1\ X3\ X0)))) \Rightarrow ((v1\_funct\_1\ (k7\_bvfunc\_2\ X0\ X1\ X2\ X3)) \wedge ((v1\_funct\_2\ (k7\_bvfunc\_2\ X0\ X1\ X2\ X3)\ X0\ k6\_margrel1) \wedge (m1\_subset\_1\ (k7\_bvfunc\_2\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k6\_margrel1))))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge(((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ X0\ k6\_margrel1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k6\_margrel1)))))\wedge((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ k6\_margrel1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k6\_margrel1)))))))\Rightarrow(k6\_bvfunc\_1\ X0\ X1\ X2 = k6\_bvfunc\_1\ X0\ X2\ X1) \tag{4}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_partit1\ X0)))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ k6\_margrel1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k6\_margrel1)))))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ X0\ k6\_margrel1)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k6\_margrel1)))))\Rightarrow(\forall X4.(m1\_eqrel\_1\ X4\ X0)\Rightarrow((r3\_bvfunc\_2\ X0\ X2\ X1\ X4)\Rightarrow(r1\_bvfunc\_1\ X0\ (k6\_bvfunc\_1\ X0\ (k7\_bvfunc\_2\ X0\ X3\ X1\ X4)\ X2)\ (k7\_bvfunc\_2\ X0\ (k6\_bvfunc\_1\ X0\ X3\ X2)\ X1\ X4)))))))$$