

t4_bvfunc26 (TMUKPH- navn6dBeAj7Q5BuEMgojAHMP76vbi)

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 $k6_margrel1 : \iota$ 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 $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_bvfunc26 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_bvfunc_1 : \iota \Rightarrow \iota$ be given. Let $k12_bvfunc_1 : \iota \Rightarrow \iota$ be given. Let $k2_bvfunc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_bvfunc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge \\ (v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\ k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (r2_funct_2 X0 k6_margrel1 (\\ k2_bvfunc_1 X0 X1 (k11_bvfunc_1 X0)) (k11_bvfunc_1 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow ((r2_funct_2 X0 k6_margrel1 (k1_bvfunc_1 \\ X0 (k12_bvfunc_1 X0)) (k11_bvfunc_1 X0)) \wedge (r2_funct_2 X0 k6_margrel1 \\ (k1_bvfunc_1 X0 (k11_bvfunc_1 X0)) (k12_bvfunc_1 X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge \\ (v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\ k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge \\ ((v1_funct_2 X2 X0 k6_margrel1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (r2_funct_2 X0 k6_margrel1 \\ (k5_bvfunc26 X0 X1 X2) (k1_bvfunc_1 X0 (k2_bvfunc_1 X0 X1 X2)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X2) \wedge \\ ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 X1)))))) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 \\ X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((r2_funct_2 X0 X1 X2 \\ X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge(v1_funct_2 X1 X0 k6_margrel1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k6_margrel1))))))\Rightarrow(k1_bvfunc_1 X0 (k1_bvfunc_1 X0 X1) = X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(((v1_funct_1 X1)\wedge((v1_funct_2 X1 X0 k6_margrel1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k6_margrel1))))))\wedge((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 k6_margrel1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k6_margrel1)))))))\Rightarrow((v1_funct_1 (k2_bvfunc_1 X0 X1 X2))\wedge(v1_funct_2 (k2_bvfunc_1 X0 X1 X2) X0 k6_margrel1)\wedge(m1_subset_1 (k2_bvfunc_1 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 X0 k6_margrel1)))))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge(v1_funct_2 X1 X0 k6_margrel1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k6_margrel1))))))\Rightarrow((v1_funct_1 (k1_bvfunc_1 X0 X1))\wedge((v1_funct_2 (k1_bvfunc_1 X0 X1) X0 k6_margrel1)\wedge(m1_subset_1 (k1_bvfunc_1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 k6_margrel1)))))) \quad (7)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow((v1_funct_1 (k12_bvfunc_1 X0))\wedge((v1_funct_2 (k12_bvfunc_1 X0) X0 k6_margrel1)\wedge(m1_subset_1 (k12_bvfunc_1 X0) (k1_zfmisc_1 (k2_zfmisc_1 X0 k6_margrel1)))))) \quad (8)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow((v1_funct_1 (k11_bvfunc_1 X0))\wedge((v1_funct_2 (k11_bvfunc_1 X0) X0 k6_margrel1)\wedge(m1_subset_1 (k11_bvfunc_1 X0) (k1_zfmisc_1 (k2_zfmisc_1 X0 k6_margrel1)))))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(((v1_funct_1 X1)\wedge((v1_funct_2 X1 X0 k6_margrel1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k6_margrel1))))))\wedge((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 k6_margrel1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k6_margrel1)))))))\Rightarrow(k2_bvfunc_1 X0 X1 X2 = k2_bvfunc_1 X0 X2 X1) \quad (10)$$

Theorem 1

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\ (v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\ k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (r2_funct_2 X0 k6_margrel1 (\\ k5_bvfunc26 X0 (k11_bvfunc_1 X0) X1) (k12_bvfunc_1 X0)) \end{aligned}$$