

l4_bvfunc_9

(TMSHRe5jJmJUK1AAEDXcS89NMxZfwCie3a6)

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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 $r1_bvfunc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_bvfunc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_bvfunc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_bvfunc_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\ (v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\ k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge \\ ((v1_funct_2 X2 X0 k6_margrel1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge \\ ((v1_funct_2 X3 X0 k6_margrel1) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (r2_funct_2 X0 k6_margrel1 \\ (k2_bvfunc_1 X0 (k2_bvfunc_1 X0 X1 X2) X3) (k2_bvfunc_1 X0 X1 (k2_bvfunc_1 \\ X0 X2 X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\ (v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\ k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge \\ ((v1_funct_2 X2 X0 k6_margrel1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (r2_funct_2 X0 k6_margrel1 \\ (k9_bvfunc_1 X0 (k2_bvfunc_1 X0 X1 X2) X1) (k12_bvfunc_1 X0)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\ (v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\ k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge \\ ((v1_funct_2 X2 X0 k6_margrel1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow ((r2_funct_2 X0 k6_margrel1 \\ (k9_bvfunc_1 X0 X1 X2) (k12_bvfunc_1 X0)) \Leftrightarrow (r1_bvfunc_1 X0 X1 X2)))) \end{aligned} \tag{3}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(((v1_funct_1 \\ & X1)\wedge((v1_funct_2 X1 X0 k6_margrel1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 k6_margrel1))))\wedge((v1_funct_1 X2)\wedge((v1_funct_2 \\ & X2 X0 k6_margrel1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 k6_margrel1))))))\Rightarrow((v1_funct_1 (k2_bvfunc_1 X0 X1 X2))\wedge(\\ & (v1_funct_2 (k2_bvfunc_1 X0 X1 X2) X0 k6_margrel1)\wedge(m1_subset_1 \\ & (k2_bvfunc_1 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 X0 k6_margrel1)))))) \end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(((v1_funct_1 \\ & X1)\wedge((v1_funct_2 X1 X0 k6_margrel1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 k6_margrel1))))\wedge((v1_funct_1 X2)\wedge((v1_funct_2 \\ & X2 X0 k6_margrel1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 k6_margrel1))))))\Rightarrow(k2_bvfunc_1 X0 X1 X2 = k2_bvfunc_1 X0 X2 \\ & X1)) \end{aligned} \tag{6}$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((v1_funct_1 X1)\wedge(\\ & (v1_funct_2 X1 X0 k6_margrel1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (\\ & k2_zfmisc_1 X0 k6_margrel1))))\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge \\ & ((v1_funct_2 X2 X0 k6_margrel1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 k6_margrel1))))\Rightarrow(\forall X3.((v1_funct_1 X3)\wedge \\ & ((v1_funct_2 X3 X0 k6_margrel1)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 k6_margrel1))))\Rightarrow(\forall X4.((v1_funct_1 X4)\wedge \\ & ((v1_funct_2 X4 X0 k6_margrel1)\wedge(m1_subset_1 X4 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 k6_margrel1))))\Rightarrow(\forall X5.((v1_funct_1 X5)\wedge \\ & ((v1_funct_2 X5 X0 k6_margrel1)\wedge(m1_subset_1 X5 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 k6_margrel1))))\Rightarrow((r1_bvfunc_1 X0 (k2_bvfunc_1 \\ & X0 (k2_bvfunc_1 X0 (k2_bvfunc_1 X0 (k2_bvfunc_1 X0 X1 X2) X3) X4) \\ & X5) X1)\wedge(r1_bvfunc_1 X0 (k2_bvfunc_1 X0 (k2_bvfunc_1 X0 (k2_bvfunc_1 \\ & X0 (k2_bvfunc_1 X0 X1 X2) X3) X4) X5) X2)))))) \end{aligned}$$