t10_bvfunc_6 (TMMLiX-EiLDR5VMk9trm8U8FWPZoTgp6PmnB)

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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 $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9\_bvfunc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_bvfunc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_bvfunc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12\_bvfunc\_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ X0\ k6\_margrel1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k6\_margrel1))))) \Rightarrow (r2\_funct\_2\ X0\ k6\_margrel1\ (k1\_bvfunc\_1\ X0\ (k2\_bvfunc\_1\ X0\ X1\ (k1\_bvfunc\_1\ X0\ X1)))\ (k12\_bvfunc\_1\ X0))) \tag{1}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ X0\ k6\_margrel1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k6\_margrel1))))) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ X0\ k6\_margrel1) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k6\_margrel1))))) \Rightarrow (r2\_funct\_2\ X0\ k6\_margrel1\ (k9\_bvfunc\_1\ X0\ (k9\_bvfunc\_1\ X0\ X1\ X2)\ (k9\_bvfunc\_1\ X0\ (k1\_bvfunc\_1\ X0\ X2)\ (k1\_bvfunc\_1\ X0\ X1)))\ (k12\_bvfunc\_1\ X0)))) \tag{2}$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0\ X0)\Rightarrow(\forall X1.((v1_funct_1\ X1)\wedge(
(v1_funct_2\ X1\ X0\ k6_margrel1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (
k2_zfmisc_1\ X0\ k6_margrel1)))))\Rightarrow(\forall X2.((v1_funct_1\ X2)\wedge
((v1_funct_2\ X2\ X0\ k6_margrel1)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1
(k2_zfmisc_1\ X0\ k6_margrel1)))))\Rightarrow(\forall X3.((v1_funct_1\ X3)\wedge
((v1_funct_2\ X3\ X0\ k6_margrel1)\wedge(m1_subset_1\ X3\ (k1_zfmisc_1
(k2_zfmisc_1\ X0\ k6_margrel1)))))\Rightarrow(((r2_funct_2\ X0\ k6_margrel1
(k9_bvfunc_1\ X0\ X3\ (k9_bvfunc_1\ X0\ X2\ X1))\ (k12_bvfunc_1\ X0))\wedge(
r2_funct_2\ X0\ k6_margrel1\ X2\ (k12_bvfunc_1\ X0)))\Rightarrow(r2_funct_2
X0\ k6_margrel1\ (k9_bvfunc_1\ X0\ X3\ X1)\ (k12_bvfunc_1\ X0))))))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0\ X0)\wedge(((v1_funct_1
X1)\wedge((v1_funct_2\ X1\ X0\ k6_margrel1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1
(k2_zfmisc_1\ X0\ k6_margrel1)))))\wedge((v1_funct_1\ X2)\wedge((v1_funct_2
X2\ X0\ k6_margrel1)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1
X0\ k6_margrel1)))))))\Rightarrow((v1_funct_1\ (k9_bvfunc_1\ X0\ X1\ X2))\wedge(
(v1_funct_2\ (k9_bvfunc_1\ X0\ X1\ X2)\ X0\ k6_margrel1)\wedge(m1_subset_1
(k9_bvfunc_1\ X0\ X1\ X2)\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ k6_margrel1))))) \tag{4}$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0\ X0)\wedge((v1_funct_1\ X1)\wedge(
(v1_funct_2\ X1\ X0\ k6_margrel1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (
k2_zfmisc_1\ X0\ k6_margrel1))))))\Rightarrow((v1_funct_1\ (k1_bvfunc_1
X0\ X1))\wedge((v1_funct_2\ (k1_bvfunc_1\ X0\ X1)\ X0\ k6_margrel1)\wedge(m1_subset_1
(k1_bvfunc_1\ X0\ X1)\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ k6_margrel1))))) \tag{6}$$

Theorem 1

$$\forall X0.(\neg v1_xboole_0\ X0)\Rightarrow(\forall X1.((v1_funct_1\ X1)\wedge(
(v1_funct_2\ X1\ X0\ k6_margrel1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (
k2_zfmisc_1\ X0\ k6_margrel1)))))\Rightarrow(\forall X2.((v1_funct_1\ X2)\wedge
((v1_funct_2\ X2\ X0\ k6_margrel1)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1
(k2_zfmisc_1\ X0\ k6_margrel1)))))\Rightarrow(r2_funct_2\ X0\ k6_margrel1
(k9_bvfunc_1\ X0\ (k9_bvfunc_1\ X0\ X1\ (k2_bvfunc_1\ X0\ X2\ (k1_bvfunc_1
X0\ X2)))\ (k1_bvfunc_1\ X0\ X1))\ (k12_bvfunc_1\ X0))))$$