t22_bvfunc11 (TMZqTH956JkLUQrhWBk2V9KexoEFr4Jeh9y)

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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 $k1\_bvfunc\_2 : \iota \Rightarrow \iota$ be given. Let $m1\_eqrel\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2\_bvfunc\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_bvfunc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7\_bvfunc\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_bvfunc\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ X0\ k6\_margrel1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k6\_margrel1))))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2 (k1\_zfmisc\_1\ (k1\_bvfunc\_2\ X0))) \Rightarrow (\forall X3.(m1\_eqrel\_1\ X3\ X0) \Rightarrow (\forall X4.(m1\_eqrel\_1\ X4\ X0) \Rightarrow ((v2\_bvfunc\_2\ X2\ X0) \Rightarrow (r1\_bvfunc\_1 X0\ (k7\_bvfunc\_2\ X0\ (k6\_bvfunc\_2\ X0\ X1\ X2\ X3)\ X2\ X4)\ (k6\_bvfunc\_2\ X0 (k7\_bvfunc\_2\ X0\ X1\ X2\ X4)\ X2\ X3)))))))) \tag{1}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ X0\ k6\_margrel1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k6\_margrel1))))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2 (k1\_zfmisc\_1\ (k1\_bvfunc\_2\ X0))) \Rightarrow (\forall X3.(m1\_eqrel\_1\ X3\ X0) \Rightarrow (\forall X4.(m1\_eqrel\_1\ X4\ X0) \Rightarrow (r1\_bvfunc\_1\ X0\ (k6\_bvfunc\_2\ X0 X1\ X2\ X3)\ (k7\_bvfunc\_2\ X0\ X1\ X2\ X4)))))) \tag{2}$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0\ X0)\Rightarrow(\forall X1.((v1_funct_1\ X1)\wedge(
(v1_funct_2\ X1\ X0\ k6_margrel1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (
k2_zfmisc_1\ X0\ k6_margrel1)))))\Rightarrow(\forall X2.((v1_funct_1\ X2)\wedge
((v1_funct_2\ X2\ X0\ k6_margrel1)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1
(k2_zfmisc_1\ X0\ k6_margrel1)))))\Rightarrow(\forall X3.((v1_funct_1\ X3)\wedge
((v1_funct_2\ X3\ X0\ k6_margrel1)\wedge(m1_subset_1\ X3\ (k1_zfmisc_1
(k2_zfmisc_1\ X0\ k6_margrel1)))))\Rightarrow((((r1_bvfunc_1\ X0\ X1\ X2)\wedge(
r1_bvfunc_1\ X0\ X2\ X1))\Rightarrow(r2_funct_2\ X0\ k6_margrel1\ X1\ X2))\wedge(((r1_bvfunc_1
X0\ X1\ X2)\wedge(r1_bvfunc_1\ X0\ X2\ X3))\Rightarrow(r1_bvfunc_1\ X0\ X1\ X3))))))$$

(3)

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0\ X0)\wedge
(((v1_funct_1\ X1)\wedge((v1_funct_2\ X1\ X0\ k6_margrel1)\wedge(m1_subset_1
X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ k6_margrel1)))))\wedge((m1_subset_1
X2\ (k1_zfmisc_1\ (k1_bvfunc_2\ X0)))\wedge(m1_eqrel_1\ X3\ X0))))\Rightarrow((v1_funct_1
(k7_bvfunc_2\ X0\ X1\ X2\ X3))\wedge((v1_funct_2\ (k7_bvfunc_2\ X0\ X1\ X2\ X3)
X0\ k6_margrel1)\wedge(m1_subset_1\ (k7_bvfunc_2\ X0\ X1\ X2\ X3)\ (k1_zfmisc_1
(k2_zfmisc_1\ X0\ k6_margrel1)))))$$

(4)

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0\ X0)\wedge
(((v1_funct_1\ X1)\wedge((v1_funct_2\ X1\ X0\ k6_margrel1)\wedge(m1_subset_1
X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ k6_margrel1)))))\wedge((m1_subset_1
X2\ (k1_zfmisc_1\ (k1_bvfunc_2\ X0)))\wedge(m1_eqrel_1\ X3\ X0))))\Rightarrow((v1_funct_1
(k6_bvfunc_2\ X0\ X1\ X2\ X3))\wedge((v1_funct_2\ (k6_bvfunc_2\ X0\ X1\ X2\ X3)
X0\ k6_margrel1)\wedge(m1_subset_1\ (k6_bvfunc_2\ X0\ X1\ X2\ X3)\ (k1_zfmisc_1
(k2_zfmisc_1\ X0\ k6_margrel1)))))$$

(5)

Theorem 1

$$\forall X0.(\neg v1_xboole_0\ X0)\Rightarrow(\forall X1.((v1_funct_1\ X1)\wedge(
(v1_funct_2\ X1\ X0\ k6_margrel1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (
k2_zfmisc_1\ X0\ k6_margrel1)))))\Rightarrow(\forall X2.(m1_subset_1\ X2
(k1_zfmisc_1\ (k1_bvfunc_2\ X0)))\Rightarrow(\forall X3.(m1_eqrel_1\ X3\ X0)\Rightarrow
(\forall X4.(m1_eqrel_1\ X4\ X0)\Rightarrow((v2_bvfunc_2\ X2\ X0)\Rightarrow(r1_bvfunc_1
X0\ (k7_bvfunc_2\ X0\ (k6_bvfunc_2\ X0\ X1\ X2\ X3)\ X2\ X4)\ (k7_bvfunc_2\ X0
(k7_bvfunc_2\ X0\ X1\ X2\ X4)\ X2\ X3)))))))$$