t12_partit_2 (TMQh37ZUkXsMML2LtE1ZVciVBPbBt9PteyV)

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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 $r1\_bvfunc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_bvfunc\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_bvfunc\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16\_bvfunc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15\_bvfunc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_margrel1 : \iota$ be given. Let $k7\_margrel1 : \iota$ be given. Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge((m1\_eqrel\_1\ X1\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k1\_bvfunc\_2\ X0)))))\Rightarrow(m1\_eqrel\_1\ (k5\_bvfunc\_2\ X0\ X1\ X2)\ X0) \tag{2}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ X0\ k6\_margrel1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k6\_margrel1)))))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k1\_bvfunc\_2\ X0)))\Rightarrow(\forall X3.(m1\_eqrel\_1\ X3\ X0)\Rightarrow(k6\_bvfunc\_2\ X0\ X1\ X2\ X3 = k16\_bvfunc\_1\ X0\ X1\ (k5\_bvfunc\_2\ X0\ X3\ X2))))) \tag{3}$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0\ X0)\Rightarrow(\forall X1.((v1_funct_1\ X1)\wedge(
(v1_funct_2\ X1\ X0\ k6_margrel1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (
k2_zfmisc_1\ X0\ k6_margrel1)))))\Rightarrow(\forall X2.(m1_eqrel_1\ X2\ X0)\Rightarrow
(\forall X3.((v1_funct_1\ X3)\wedge((v1_funct_2\ X3\ X0\ k6_margrel1)\wedge
(m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ k6_margrel1)))))\Rightarrow
((X3 = k16_bvfunc_1\ X0\ X1\ X2)\Leftrightarrow(\forall X4.(m1_subset_1\ X4\ X0)\Rightarrow(
((\forall X5.(m1_subset_1\ X5\ X0)\Rightarrow((X5 \in k15_bvfunc_1\ X0\ X4\ X2)\Rightarrow
(k3_funct_2\ X0\ k6_margrel1\ X1\ X5 = k8_margrel1)))\Rightarrow(k3_funct_2
X0\ k6_margrel1\ X3\ X4 = k8_margrel1))\wedge((\exists X5.(m1_subset_1
X5\ X0)\wedge((X5 \in k15_bvfunc_1\ X0\ X4\ X2)\wedge(k3_funct_2\ X0\ k6_margrel1
X1\ X5 \neq k8_margrel1)))\Rightarrow(k3_funct_2\ X0\ k6_margrel1\ X3\ X4 = k7_margrel1)))))))) \tag{4}$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0\ X0)\Rightarrow(\forall X1.((v1_funct_1\ X1)\wedge(
(v1_funct_2\ X1\ X0\ k6_margrel1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (
k2_zfmisc_1\ X0\ k6_margrel1)))))\Rightarrow(\forall X2.((v1_funct_1\ X2)\wedge
((v1_funct_2\ X2\ X0\ k6_margrel1)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1
(k2_zfmisc_1\ X0\ k6_margrel1)))))\Rightarrow((r1_bvfunc_1\ X0\ X1\ X2)\Leftrightarrow(\forall X3.
(m1_subset_1\ X3\ X0)\Rightarrow((k3_funct_2\ X0\ k6_margrel1\ X1\ X3 = k8_margrel1)\Rightarrow
(k3_funct_2\ X0\ k6_margrel1\ X2\ X3 = k8_margrel1))))) \tag{5}$$

Theorem 1

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