

t10_bvfunc_2

(TMF3qkhJembFibPMvQhXAWiTxtPmSCmDgbF)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_partit1 : \iota \Rightarrow \iota$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_eqrel_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_bvfunc_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_bvfunc_1 : \iota \Rightarrow \iota$ be given. Let $k1_bvfunc_2 : \iota \Rightarrow \iota$ be given. Let $k5_bvfunc_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k17_bvfunc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_bvfunc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_margrel1 : \iota$ be given. Let $k7_margrel1 : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X2) \wedge \\ & ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow (r2_funct_2 X0 X1 X2 X2) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. k1_bvfunc_2 X0 = k1_partit1 X0 \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge ((m1_eqrel_1 \\ & X1 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k1_bvfunc_2 X0)))))) \Rightarrow (m1_eqrel_1 \\ & (k5_bvfunc_2 X0 X1 X2) X0) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow ((v1_funct_1 (k11_bvfunc_1 X0)) \wedge \\ & ((v1_funct_2 (k11_bvfunc_1 X0) X0 k6_margrel1) \wedge (m1_subset_1 \\ & (k11_bvfunc_1 X0) (k1_zfmisc_1 (k2_zfmisc_1 X0 k6_margrel1)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\
& (v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\
& k2_zfmisc_1 X0 k6_margrel1)))) \Rightarrow (\forall X2.(m1_eqrel_1 X2 X0) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 k6_margrel1) \wedge \\
& (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow \\
& ((X3 = k17_bvfunc_1 X0 X1 X2) \Leftrightarrow (\forall X4.(m1_subset_1 X4 X0) \Rightarrow (\\
& ((\exists X5.(m1_subset_1 X5 X0) \wedge ((X5 \in k15_bvfunc_1 X0 X4 X2) \wedge \\
& (k3_funct_2 X0 k6_margrel1 X1 X5 = k8_margrel1))) \Rightarrow (k3_funct_2 \\
& X0 k6_margrel1 X3 X4 = k8_margrel1)) \wedge ((\forall X5.(m1_subset_1 \\
& X5 X0) \Rightarrow (\neg(X5 \in k15_bvfunc_1 X0 X4 X2) \wedge (k3_funct_2 X0 k6_margrel1 \\
& X1 X5 = k8_margrel1)))) \Rightarrow (k3_funct_2 X0 k6_margrel1 X3 X4 = k7_margrel1))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\
& v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\
& k2_zfmisc_1 X0 k6_margrel1)))) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& (k1_zfmisc_1 (k1_bvfunc_2 X0))) \Rightarrow (\forall X3.(m1_eqrel_1 X3 X0) \Rightarrow \\
& (k7_bvfunc_2 X0 X1 X2 X3 = k17_bvfunc_1 X0 X1 (k5_bvfunc_2 X0 X3 X2))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\
& v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\
& k2_zfmisc_1 X0 k6_margrel1)))) \Rightarrow ((X1 = k11_bvfunc_1 X0) \Leftrightarrow (\forall X2. \\
& (m1_subset_1 X2 X0) \Rightarrow (k3_funct_2 X0 k6_margrel1 X1 X2 = k7_margrel1))))
\end{aligned} \tag{7}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_partit1 X0))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 X0 k6_margrel1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k6_margrel1)))) \Rightarrow (\forall X3.(m1_eqrel_1 X3 X0) \Rightarrow (r2_funct_2 \\
& X0 k6_margrel1 (k7_bvfunc_2 X0 (k11_bvfunc_1 X0) X1 X3) (k11_bvfunc_1 \\
& X0))))))
\end{aligned}$$