

l15_bvfunc_3

(TMLq29EVTiGtDbvrjp9Do7X5UfFaSynU1Kn)

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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 $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_bvfunc_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_bvfunc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_margrel1 : \iota$ be given. Let $k15_bvfunc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_bvfunc_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_bvfunc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\
 & (v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\
 & k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge \\
 & ((v1_funct_2 X2 X0 k6_margrel1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
 & (k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (\forall X3. (m1_subset_1 X3 \\
 & (k1_zfmisc_1 (k1_bvfunc_2 X0))) \Rightarrow (\forall X4. (m1_eqrel_1 X4 X0) \Rightarrow \\
 & (\forall X5. (m1_subset_1 X5 X0) \Rightarrow ((k3_funct_2 X0 k6_margrel1 (\\
 & k6_bvfunc_2 X0 (k5_bvfunc_1 X0 X1 X2) X3 X4) X5 = k8_margrel1) \Rightarrow (\forall X6. \\
 & (m1_subset_1 X6 X0) \Rightarrow ((X6 \in k15_bvfunc_1 X0 X5 (k5_bvfunc_2 X0 X4 \\
 & X3)) \Rightarrow (k3_funct_2 X0 k6_margrel1 (k5_bvfunc_1 X0 X1 X2) X6 = k8_margrel1))))))))) \\
 & \tag{1}
 \end{aligned}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge ((v1_funct_1 \\
 & X1) \wedge ((v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
 & (k2_zfmisc_1 X0 k6_margrel1)))))) \wedge ((v1_funct_1 X2) \wedge ((v1_funct_2 \\
 & X2 X0 k6_margrel1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & X0 k6_margrel1)))))) \Rightarrow (k5_bvfunc_1 X0 X1 X1 = X1) \\
 & \tag{2}
 \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge ((v1_funct_1 \\ & X1) \wedge ((v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 k6_margrel1)))))) \wedge ((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 X0 k6_margrel1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 k6_margrel1)))))) \Rightarrow ((v1_funct_1 (k9_bvfunc_1 X0 X1 X2)) \wedge (\\ & (v1_funct_2 (k9_bvfunc_1 X0 X1 X2) X0 k6_margrel1) \wedge (m1_subset_1 \\ & (k9_bvfunc_1 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 X0 k6_margrel1)))))) \end{aligned} \quad (3)$$

Theorem 1

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\ & (v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\ & k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge \\ & ((v1_funct_2 X2 X0 k6_margrel1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (\forall X3. (m1_subset_1 X3 \\ & (k1_zfmisc_1 (k1_bvfunc_2 X0))) \Rightarrow (\forall X4. (m1_eqrel_1 X4 X0) \Rightarrow \\ & (\forall X5. (m1_subset_1 X5 X0) \Rightarrow ((k3_funct_2 X0 k6_margrel1 (\\ & k6_bvfunc_2 X0 (k9_bvfunc_1 X0 X1 X2) X3 X4) X5 = k8_margrel1) \Rightarrow (\forall X6. \\ & (m1_subset_1 X6 X0) \Rightarrow ((X6 \in k15_bvfunc_1 X0 X5 (k5_bvfunc_2 X0 X4 \\ & X3)) \Rightarrow (k3_funct_2 X0 k6_margrel1 (k9_bvfunc_1 X0 X1 X2) X6 = k8_margrel1)))))))))) \end{aligned}$$