

t5_bvfunc10

(TMM6kXYW37QZDaMZ45sLF3EUqmomuAsj4oE)

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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 $k12_bvfunc_1 : \iota \Rightarrow \iota$ be given. Let $k2_bvfunc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\
 & (v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\
 & k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge \\
 & ((v1_funct_2 X2 X0 k6_margrel1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
 & (k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge \\
 & ((v1_funct_2 X3 X0 k6_margrel1) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
 & (k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (\forall X4. ((v1_funct_1 X4) \wedge \\
 & ((v1_funct_2 X4 X0 k6_margrel1) \wedge (m1_subset_1 X4 (k1_zfmisc_1 \\
 & (k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (((r2_funct_2 X0 k6_margrel1 \\
 & (k9_bvfunc_1 X0 X1 X2) (k12_bvfunc_1 X0)) \wedge (r2_funct_2 X0 k6_margrel1 \\
 & (k9_bvfunc_1 X0 X3 X4) (k12_bvfunc_1 X0))) \Rightarrow (r2_funct_2 X0 k6_margrel1 \\
 & (k9_bvfunc_1 X0 (k2_bvfunc_1 X0 X1 X3) (k2_bvfunc_1 X0 X2 X4)) (k12_bvfunc_1 \\
 & X0))))))
 \end{aligned}
 \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge (((v1_funct_1 \\
 & X1) \wedge ((v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
 & (k2_zfmisc_1 X0 k6_margrel1)))))) \wedge ((v1_funct_1 X2) \wedge ((v1_funct_2 \\
 & X2 X0 k6_margrel1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & X0 k6_margrel1)))))) \Rightarrow (k2_bvfunc_1 X0 X1 X1 = X1)
 \end{aligned}
 \tag{2}$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\ & (v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\ & k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge \\ & ((v1_funct_2 X2 X0 k6_margrel1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge \\ & ((v1_funct_2 X3 X0 k6_margrel1) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (((r2_funct_2 X0 k6_margrel1 \\ & (k9_bvfunc_1 X0 X1 X3) (k12_bvfunc_1 X0)) \wedge (r2_funct_2 X0 k6_margrel1 \\ & (k9_bvfunc_1 X0 X2 X3) (k12_bvfunc_1 X0))) \Rightarrow (r2_funct_2 X0 k6_margrel1 \\ & (k9_bvfunc_1 X0 (k2_bvfunc_1 X0 X1 X2) X3) (k12_bvfunc_1 X0)))))) \end{aligned}$$