

t35_bvfunc_3 (TMFrAh- prGjUiXnY9GQn2yoSCoBcEudEQCBM)

October 27, 2020

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 $k1_bvfunc_2 : \iota \Rightarrow \iota$ 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 $r1_bvfunc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_bvfunc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_bvfunc_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_bvfunc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_bvfunc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (k1_bvfunc_2 X0))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\ X2 X0 k6_margrel1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 k6_margrel1)))))) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 \\ X3 X0 k6_margrel1) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 k6_margrel1)))))) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge ((v1_funct_2 \\ X4 X0 k6_margrel1) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 k6_margrel1)))))) \Rightarrow (\forall X5.(m1_eqrel_1 X5 X0) \Rightarrow (r1_bvfunc_1 \\ X0 (k2_bvfunc_1 X0 (k6_bvfunc_2 X0 (k9_bvfunc_1 X0 X2 (k1_bvfunc_1 \\ X0 X3)) X1 X5) (k6_bvfunc_2 X0 (k9_bvfunc_1 X0 X4 X3) X1 X5)) (k6_bvfunc_2 \\ X0 (k9_bvfunc_1 X0 X4 (k1_bvfunc_1 X0 X2)) X1 X5)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((v1_funct_1 X1) \wedge \\ (v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\ k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (k1_bvfunc_1 X0 (k1_bvfunc_1 \\ X0 X1) = X1) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((v1_funct_1 X1) \wedge \\ (v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\ k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow ((v1_funct_1 (k1_bvfunc_1 \\ X0 X1)) \wedge ((v1_funct_2 (k1_bvfunc_1 X0 X1) X0 k6_margrel1) \wedge (m1_subset_1 \\ (k1_bvfunc_1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 k6_margrel1)))))) \end{aligned} \quad (3)$$

Theorem 1

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (k1_bvfunc_2 X0))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\ X2 X0 k6_margrel1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 k6_margrel1)))))) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 \\ X3 X0 k6_margrel1) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 k6_margrel1)))))) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge ((v1_funct_2 \\ X4 X0 k6_margrel1) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 k6_margrel1)))))) \Rightarrow (\forall X5.(m1_eqrel_1 X5 X0) \Rightarrow (r1_bvfunc_1 \\ X0 (k2_bvfunc_1 X0 (k6_bvfunc_2 X0 (k9_bvfunc_1 X0 X2 X3) X1 X5) (\\ k6_bvfunc_2 X0 (k9_bvfunc_1 X0 X4 (k1_bvfunc_1 X0 X3)) X1 X5)) (k6_bvfunc_2 \\ X0 (k9_bvfunc_1 X0 X4 (k1_bvfunc_1 X0 X2)) X1 X5)))))) \end{aligned}$$