

t7_bvfunc_2
(TMS4GGbCaUk5yDkq3NtadTd8HrS5PtaKGeb)

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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 $k6_bvfunc_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_bvfunc_1 : \iota \Rightarrow \iota$ 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 $k16_bvfunc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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.

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

Assume the following.

$$\forall X0. k1_bvfunc_2 X0 = k1_partit1 X0 \tag{2}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow ((v1_funct_1 (k12_bvfunc_1 X0)) \wedge \\ & ((v1_funct_2 (k12_bvfunc_1 X0) X0 k6_margrel1) \wedge (m1_subset_1 \\ & (k12_bvfunc_1 X0) (k1_zfmisc_1 (k2_zfmisc_1 X0 k6_margrel1)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\ (v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\ k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ (k1_zfmisc_1 (k1_bvfunc_2 X0))) \Rightarrow (\forall X3.(m1_eqrel_1 X3 X0) \Rightarrow \\ (k6_bvfunc_2 X0 X1 X2 X3 = k16_bvfunc_1 X0 X1 (k5_bvfunc_2 X0 X3 X2)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\ (v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\ k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow (\forall X2.(m1_eqrel_1 X2 X0) \Rightarrow \\ (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 k6_margrel1) \wedge \\ (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow \\ ((X3 = k16_bvfunc_1 X0 X1 X2) \Leftrightarrow (\forall X4.(m1_subset_1 X4 X0) \Rightarrow (\\ (\forall X5.(m1_subset_1 X5 X0) \Rightarrow ((X5 \in k15_bvfunc_1 X0 X4 X2) \Rightarrow \\ (k3_funct_2 X0 k6_margrel1 X1 X5 = k8_margrel1)))) \Rightarrow (k3_funct_2 \\ X0 k6_margrel1 X3 X4 = k8_margrel1)) \wedge ((\exists X5.(m1_subset_1 \\ X5 X0) \wedge ((X5 \in k15_bvfunc_1 X0 X4 X2) \wedge (k3_funct_2 X0 k6_margrel1 \\ X1 X5 \neq k8_margrel1)))) \Rightarrow (k3_funct_2 X0 k6_margrel1 X3 X4 = k7_margrel1)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\ (v1_funct_2 X1 X0 k6_margrel1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\ k2_zfmisc_1 X0 k6_margrel1)))))) \Rightarrow ((X1 = k12_bvfunc_1 X0) \Leftrightarrow (\forall X2. \\ (m1_subset_1 X2 X0) \Rightarrow (k3_funct_2 X0 k6_margrel1 X1 X2 = k8_margrel1)))) \end{aligned} \quad (7)$$

Theorem 1

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (k1_partit1 X0))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\ X2 X0 k6_margrel1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 k6_margrel1)))))) \Rightarrow (\forall X3.(m1_eqrel_1 X3 X0) \Rightarrow (r2_funct_2 \\ X0 k6_margrel1 (k6_bvfunc_2 X0 (k12_bvfunc_1 X0) X1 X3) (k12_bvfunc_1 \\ X0)))))) \end{aligned}$$