

t42_bcialg_6 (TMWVK- soKHR2zWpCdPBEtvMnRbetXMoimFTt)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v3_bcialg_1 : \iota \Rightarrow o$ be given. Let $v4_bcialg_1 : \iota \Rightarrow o$ be given. Let $v5_bcialg_1 : \iota \Rightarrow o$ be given. Let $v7_bcialg_1 : \iota \Rightarrow o$ be given. Let $l2_bcialg_1 : \iota \Rightarrow o$ 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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v2_bcialg_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_bcialg_1 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X3) \wedge \\ & ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))) \Rightarrow (\neg(X2 \in k2_relset_1 X1 X3) \wedge (\forall X4.\neg(X4 \in X0) \wedge (k1_funct_1 \\ & X3 X4 = X2))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0) \wedge \\ & (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 \\ & X1 X2 X3 = k1_funct_1 X2 X3) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0) \Rightarrow (l1_struct_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.(l2_bcialg_1 X0) \Rightarrow ((l1_bcialg_1 X0) \wedge (l2_struct_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge (v5_relat_1 X1 X0)) \Rightarrow (v2_funct_2 X1 X0) \Leftrightarrow (k2_relset_1 X0 X1 = X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge (l2_bcialg_1 X0)))))) \Rightarrow \\ & (\forall X1.((\neg v2_struct_0 X1) \wedge ((v3_bcialg_1 X1) \wedge ((v4_bcialg_1 X1) \wedge ((v5_bcialg_1 X1) \wedge ((v7_bcialg_1 X1) \wedge (l2_bcialg_1 X1)))))) \Rightarrow \\ & (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X1) (u1_struct_0 X0)) \wedge ((v2_bcialg_6 X2 X1 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X0)))))) \Rightarrow ((v2_funct_2 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\exists X4.(m1_subset_1 X4 (u1_struct_0 X1) \wedge (X3 = k3_funct_2 (u1_struct_0 X1) (u1_struct_0 X0) X2 X4)))))) \end{aligned}$$