

t23_grnilp_1 (TMbZgYKTGERztBEDB- dbA39dxd5qp88HvYJp)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v15_algstr_0 : \iota \Rightarrow o$ be given. Let $v2_group_1 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ 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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_group_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $m1_group_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k13_group_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_grsolv_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_group_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_group_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v15_algstr_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v15_algstr_0 X1) \wedge ((v2_group_1 X1) \wedge ((v3_group_1 X1) \wedge (l3_algstr_0 X1)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge ((v1_group_6 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow (\forall X3.((v15_algstr_0 X3) \wedge (m1_group_2 X3 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow ((k13_group_2 X1 (k2_grsolv_1 X0 X1 X2 X3) (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X1) X2 X4) = k7_relset_1 (u1_struct_0 X0) (u1_struct_0 X1) X2 (k13_group_2 X0 X3 X4)) \wedge (k14_group_2 X1 (k2_grsolv_1 X0 X1 X2 X3) (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X1) X2 X4) = k7_relset_1 (u1_struct_0 X0) (u1_struct_0 X1) X2 (k14_group_2 X0 X3 X4)))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_group_2 X3 X0) \Rightarrow (k5_group_2 X0 X2 (k14_group_2 X0 X3 X1) = k14_group_2 X0 X3 (k6_algstr_0 X0 X1 X2))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (3)$$

Assume the following.

$$\forall X0.(l3_algstr_0 X0) \Rightarrow (l1_struct_0 X0) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l3_algstr_0 X0) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 (k6_algstr_0 X0 X1 X2) (u1_struct_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0) \wedge (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (m1_subset_1 (k3_funct_2 X0 X1 X2 X3) X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2_struct_0 X0) \wedge ((v15_algstr_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))))) \wedge (((\neg v2_struct_0 X1) \wedge ((v15_algstr_0 X1) \wedge ((v2_group_1 X1) \wedge ((v3_group_1 X1) \wedge (l3_algstr_0 X1)))))) \wedge (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge ((v1_group_6 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)))))) \wedge (m1_group_2 X3 X0))) \Rightarrow ((v15_algstr_0 (k2_grsolv_1 X0 X1 X2 X3)) \wedge (m1_group_2 (k2_grsolv_1 X0 X1 X2 X3) X1)) \quad (7)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l3_algstr_0 X0)) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge (l3_algstr_0 X1)) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow ((v1_group_6 X2 X0 X1) \Leftrightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X1) X2 (k6_algstr_0 X0 X3 X4) = k6_algstr_0 X1 (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X1) X2 X3) (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X1) X2 X4)))))) \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v15_algstr_0 X0) \wedge ((v2_group_1 \\ & X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))))) \Rightarrow (\forall X1.((\neg v2_struct_0 \\ & X1) \wedge ((v15_algstr_0 X1) \wedge ((v2_group_1 X1) \wedge ((v3_group_1 X1) \wedge (\\ & l3_algstr_0 X1)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge ((v1_group_6 X2 X0 X1) \wedge (\\ & m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 \\ & X1)))))) \Rightarrow (\forall X3.((v15_algstr_0 X3) \wedge (m1_group_2 X3 X0)) \Rightarrow \\ & (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 \\ & X5 (u1_struct_0 X0)) \Rightarrow ((k13_group_2 X1 (k2_grsolv_1 X0 X1 X2 X3) \\ & (k6_algstr_0 X1 (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X1) \\ & X2 X4) (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X1) X2 X5)) = k7_relset_1 \\ & (u1_struct_0 X0) (u1_struct_0 X1) X2 (k13_group_2 X0 X3 (k6_algstr_0 \\ & X0 X4 X5)) \wedge (k5_group_2 X1 (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 \\ & X1) X2 X5) (k14_group_2 X1 (k2_grsolv_1 X0 X1 X2 X3) (k3_funct_2 (\\ & u1_struct_0 X0) (u1_struct_0 X1) X2 X4)) = k7_relset_1 (u1_struct_0 \\ & X0) (u1_struct_0 X1) X2 (k5_group_2 X0 X5 (k14_group_2 X0 X3 X4)))))))))) \end{aligned}$$