

t134_group_3 (TML-
bEno8FzMiNzWeVJZHKSjqMuPPZWcY9YL)

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Let $v2_struct_0 : \iota \Rightarrow o$ 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 $v15_algstr_0 : \iota \Rightarrow o$ be given. Let $m1_group_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k11_group_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_group_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_group_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k10_group_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_group_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_group_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge \\ & (v3_group_1 X1) \wedge (l3_algstr_0 X1)))) \Rightarrow (\forall X2. (m1_subset_1 \\ & X2 (k1_zfmisc_1 (u1_struct_0 X1))) \Rightarrow ((r1_struct_0 (k10_group_3 \\ & X1 X2) X0) \Leftrightarrow (\exists X3. (m1_subset_1 X3 (u1_struct_0 X1)) \wedge ((X0 = \\ & X3) \wedge (k4_group_3 X1 X2 X3 = X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v2_group_1 \\ & X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \wedge (((v15_algstr_0 X1) \wedge \\ & (m1_group_2 X1 X0)) \wedge ((v15_algstr_0 X2) \wedge (m1_group_2 X2 X0)))) \Rightarrow \\ & ((r1_group_2 X0 X1 X2) \Leftrightarrow (X1 = X2)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge \\ & ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \wedge (m1_group_2 X1 X0)) \Rightarrow (m1_subset_1 \\ & (k8_group_2 X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v2_group_1 \\ & X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \wedge ((m1_group_2 X1 X0) \wedge \\ & (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow ((v15_algstr_0 (k6_group_3 \\ & X0 X1 X2)) \wedge (m1_group_2 (k6_group_3 X0 X1 X2) X0)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_group_2 X1 X0) \Rightarrow (k8_group_2 X0 X1 = u1_struct_0 X1)) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_group_2 X1 X0) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.((v15_algstr_0 X3) \wedge (m1_group_2 X3 X0) \Rightarrow ((X3 = k6_group_3 X0 X1 X2) \Leftrightarrow (u1_struct_0 X3 = k4_group_3 X0 (k8_group_2 X0 X1) X2))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_group_2 X1 X0) \Rightarrow (k11_group_3 X0 X1 = k10_group_3 X0 (k8_group_2 X0 X1))) \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge (v3_group_1 X1) \wedge (l3_algstr_0 X1))) \Rightarrow (\forall X2. ((v15_algstr_0 X2) \wedge (m1_group_2 X2 X1)) \Rightarrow ((r1_struct_0 (k11_group_3 X1 X2) X0) \Leftrightarrow \\ & (\exists X3. (m1_subset_1 X3 (u1_struct_0 X1)) \wedge ((X0 = X3) \wedge (r1_group_2 X1 (k6_group_3 X1 X2 X3) X2)))) \end{aligned}$$