

t4_group_5
(TMFdFW8J6tp6tzvvEr63223HfVTKWM17Y5a)

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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 $m1_group_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_group_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k12_group_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $k8_group_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_group_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge \\ & \quad (v3_group_1 X1) \wedge (l3_algstr_0 X1))) \Rightarrow (\forall X2. (m1_subset_1 \\ & \quad X2 (k1_zfmisc_1 (u1_struct_0 X1))) \Rightarrow (\forall X3. (m1_group_2 X3 \\ X1) \Rightarrow ((X0 \in k12_group_2 X1 X3 X2) \Leftrightarrow (\exists X4. (m1_subset_1 X4 (u1_struct_0 \\ X1)) \wedge (\exists X5. (m1_subset_1 X5 (u1_struct_0 X1)) \wedge ((X0 = k6_algstr_0 \\ X1 X4 X5) \wedge ((r1_struct_0 X3 X4) \wedge (X5 \in X2)))))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge (l3_algstr_0 X0))) \Rightarrow (\forall X1. (m1_group_2 X1 X0) \Rightarrow ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge (l3_algstr_0 X1)))) \quad (3)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge \\ & \quad ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \wedge (m1_group_2 X1 X0)) \Rightarrow (m1_subset_1 \\ & \quad (k8_group_2 X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_group_2 X1 X0) \Rightarrow (k8_group_2 X0 X1 = u1_struct_0 X1)) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_group_2 X1 X0) \Rightarrow (\forall X2.(m1_group_2 X2 X0) \Rightarrow (k7_group_4 X0 X1 X2 = k2_group_2 X0 (k8_group_2 X0 X1) (k8_group_2 X0 X2)))) \quad (7)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow (\forall X1.(r1_struct_0 X0 X1) \Leftrightarrow (X1 \in u1_struct_0 X0)) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_group_2 X1 X0) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (k12_group_2 X0 X1 X2 = k2_group_2 X0 (k8_group_2 X0 X1) X2))) \quad (9)$$

Theorem 1

$$\forall X0.\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge ((v3_group_1 X1) \wedge (l3_algstr_0 X1)))) \Rightarrow (\forall X2.(m1_group_2 X2 X1) \Rightarrow (\forall X3.(m1_group_2 X3 X1) \Rightarrow ((X0 \in k7_group_4 X1 X2 X3) \Leftrightarrow (\exists X4.(m1_subset_1 X4 (u1_struct_0 X1)) \wedge (\exists X5.(m1_subset_1 X5 (u1_struct_0 X1)) \wedge ((X0 = k6_algstr_0 X1 X4 X5) \wedge ((r1_struct_0 X2 X4) \wedge (r1_struct_0 X3 X5))))))))))$$