

t53_group_5 (TMGMEvG- WxUj2rUJSQU4kdS4bme2cQV2kaJ3)

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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 $k1_group_1 : \iota \Rightarrow \iota$ be given. Let $k5_group_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_group_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge (v3_group_1 X1) \wedge (l3_algstr_0 X1))) \Rightarrow (\forall X2. (m1_group_2 X2 X1) \Rightarrow (\forall X3. (m1_group_2 X3 X1) \Rightarrow ((X0 \in k5_group_5 X1 X2 X3) \Leftrightarrow (\exists X4. (m1_subset_1 X4 (u1_struct_0 X1)) \wedge (\exists X5. (m1_subset_1 X5 (u1_struct_0 X1)) \wedge ((X0 = k2_group_5 X1 X4 X5) \wedge ((r1_struct_0 X2 X4) \wedge (r1_struct_0 X3 X5)))))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1. (m1_group_2 X1 X0) \Rightarrow (r1_struct_0 X1 (k1_group_1 X0))) \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((k2_group_5 X0 (k1_group_1 X0) X1 = k1_group_1 X0) \wedge (k2_group_5 X0 X1 (k1_group_1 X0) = k1_group_1 X0))) \quad (3)$$

Assume the following.

$$\forall X0. (l3_algstr_0 X0) \Rightarrow (m1_subset_1 (k1_group_1 X0) (u1_struct_0 X0)) \quad (4)$$

Theorem 1

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1. (m1_group_2 X1 X0) \Rightarrow (\forall X2. (m1_group_2 X2 X0) \Rightarrow (k1_group_1 X0 \in k5_group_5 X0 X1 X2)))$$