

t72_group_3
(TMaYF2AfEEUiMbPauQqAx2YHHFz5YSoS2RG)

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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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_group_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $k15_group_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18_group_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_group_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k17_group_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $k16_group_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $v15_algstr_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_group_2 X2 X0) \Rightarrow (k17_group_2 X0 X2 = k17_group_2 \\ & X0 (k6_group_3 X0 X2 X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_group_2 X1 X0) \Rightarrow ((v1_finset_1 \\ & (k15_group_2 X0 X1)) \Rightarrow ((\exists X2.(v1_finset_1 X2) \wedge ((X2 = k15_group_2 \\ & X0 X1) \wedge (k18_group_2 X0 X1 = k5_card_1 X2))) \wedge (\exists X2.(v1_finset_1 \\ & X2) \wedge ((X2 = k16_group_2 X0 X1) \wedge (k18_group_2 X0 X1 = k5_card_1 X2)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(v1_finset_1 X0) \Rightarrow (k5_card_1 X0 = k1_card_1 X0) \tag{3}$$

Assume the following.

$$\forall X0.(\neg v1_finset_1 X0) \Rightarrow ((\neg v1_finset_1 (k1_card_1 X0)) \wedge (v1_card_1 (k1_card_1 X0))) \tag{4}$$

Assume the following.

$$\forall X0.(v1_finset_1 X0) \Rightarrow ((v1_finset_1 (k1_card_1 X0)) \wedge (v1_card_1 (k1_card_1 X0))) \tag{5}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge((v3_group_1 \\ & X0)\wedge(l3_algstr_0 X0))))\Rightarrow(\forall X1.(m1_group_2 X1 X0)\Rightarrow(k17_group_2 \\ & X0 X1 = k1_card_1 (k15_group_2 X0 X1))) \end{aligned} \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge((v3_group_1 \\ & X0)\wedge(l3_algstr_0 X0))))\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0))\Rightarrow(\forall X2.(m1_group_2 X2 X0)\Rightarrow((v1_finset_1 (k15_group_2 \\ & X0 X2))\Rightarrow(k18_group_2 X0 X2 = k18_group_2 X0 (k6_group_3 X0 X2 X1)))))) \end{aligned}$$