

t65_group_3 (TMTtki- WwP2sXvAzF3Dk4RA2mm5T3sCcvc7b)

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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 $v8_struct_0 : \iota \Rightarrow o$ be given. Let $k6_group_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_struct_0 : \iota \Rightarrow \iota$ be given. Let $r2_wellord2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v15_algstr_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ X0)) \Rightarrow (\forall X2.(m1_group_2 X2 X0) \Rightarrow (k7_struct_0 X2 = k7_struct_0 \\ (k6_group_3 X0 X2 X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (r2_wellord2 X0 X1) \Leftrightarrow (k1_card_1 X0 = k1_card_1 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((r2_wellord2 X0 X1) \wedge (v1_finset_1 X0)) \Rightarrow (v1_finset_1 X1) \quad (3)$$

Assume the following.

$$\forall X0. ((\neg v8_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_finset_1 (u1_struct_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0. ((v8_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (v1_finset_1 (u1_struct_0 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge (l3_algstr_0 \\ X0))) \Rightarrow (\forall X1. (m1_group_2 X1 X0) \Rightarrow ((\neg v2_struct_0 X1) \wedge ((v2_group_1 \\ X1) \wedge (l3_algstr_0 X1)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(l3_algstr_0 X0) \Rightarrow (l1_struct_0 X0) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge ((v2_group_1 \\ & X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \wedge ((m1_group_2 X1 X0) \wedge \\ & (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow ((v15_algstr_0 (k6_group_3 \\ & X0 X1 X2)) \wedge (m1_group_2 (k6_group_3 X0 X1 X2) X0)) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow (k7_struct_0 X0 = k1_card_1 (u1_struct_0 X0)) \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.(((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_group_2 X2 X0) \Rightarrow ((v8_struct_0 X2) \Leftrightarrow (v8_struct_0 \\ & (k6_group_3 X0 X2 X1)))))) \end{aligned}$$