

t35_group_5
(TMW3cioP3ASC2ireqndgijmrZJN4BWU2Yoa)

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Let $v1_int_1 : \iota \Rightarrow o$ be given. 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 $k2_group_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_group_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $k2_group_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_group_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19_binop_2 : \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ & (v1_int_1 X3) \Rightarrow (k2_group_3 X0 (k5_group_1 X0 X3 X1) X2 = k5_group_1 \\ & X0 X3 (k2_group_3 X0 X1 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((k2_group_5 \\ & X0 X1 X2 = k6_algstr_0 X0 (k2_group_3 X0 (k2_group_1 X0 X2) X1) X2) \wedge \\ & (k2_group_5 X0 X1 X2 = k6_algstr_0 X0 (k2_group_1 X0 X1) (k2_group_3 \\ & X0 X1 X2)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow (k19_binop_2 X0 = k4_xcmplx_0 X0) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_int_1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_group_1 \\ & X1) \wedge ((v3_group_1 X1) \wedge (l3_algstr_0 X1)))) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X1)) \Rightarrow (k5_group_1 X1 (k19_binop_2 X0) X2 = k2_group_1 \\ & X1 (k5_group_1 X1 X0 X2)))) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow ((v1_xcmplx_0 (k4_xcmplx_0 X0)) \wedge (v1_int_1 (k4_xcmplx_0 X0))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \wedge ((v1_int_1 X1) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 (k5_group_1 X0 X1 X2) (u1_struct_0 X0)) \quad (6)$$

Theorem 1

$$\begin{aligned} \forall X0.(v1_int_1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge ((v3_group_1 X1) \wedge (l3_algstr_0 X1)))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X1)) \Rightarrow (k2_group_5 X1 X2 (k5_group_1 X1 X0 X3) = k6_algstr_0 X1 (k5_group_1 X1 (k4_xcmplx_0 X0) (k2_group_3 X1 X3 X2)) (k5_group_1 X1 X0 X3)))))) \end{aligned}$$