

t43_group_5

(TMRPjqCphbBfRTJPPhRSfH9F1W4zH5soshR)

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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 $k3_group_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_group_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_group_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_group_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k2_group_1 \\ & X0 (k2_group_5 X0 X1 X2) = k2_group_5 X0 X2 X1))) \end{aligned} \quad (1)$$

Assume the following.

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

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\
& X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((k2_group_5 \\
& X0 X1 X2 = k6_algstr_0 X0 (k6_algstr_0 X0 (k6_algstr_0 X0 (k2_group_1 \\
& X0 X1) (k2_group_1 X0 X2)) X1) X2) \wedge ((k2_group_5 X0 X1 X2 = k6_algstr_0 \\
& X0 (k6_algstr_0 X0 (k2_group_1 X0 X1) (k6_algstr_0 X0 (k2_group_1 \\
& X0 X2) X1)) X2) \wedge ((k2_group_5 X0 X1 X2 = k6_algstr_0 X0 (k2_group_1 \\
& X0 X1) (k6_algstr_0 X0 (k6_algstr_0 X0 (k2_group_1 X0 X2) X1) X2)) \wedge \\
& ((k2_group_5 X0 X1 X2 = k6_algstr_0 X0 (k2_group_1 X0 X1) (k6_algstr_0 \\
& X0 (k2_group_1 X0 X2) (k6_algstr_0 X0 X1 X2))) \wedge (k2_group_5 X0 X1 \\
& X2 = k6_algstr_0 X0 (k6_algstr_0 X0 (k2_group_1 X0 X1) (k2_group_1 \\
& X0 X2)) (k6_algstr_0 X0 X1 X2)))))))))
\end{aligned} \tag{3}$$

Assume the following.

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

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v2_group_1 \\
& X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \wedge ((m1_subset_1 X1 (\\
& u1_struct_0 X0) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 \\
& (k2_group_5 X0 X1 X2) (u1_struct_0 X0))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v2_group_1 \\
& X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \wedge ((m1_subset_1 X1 (\\
& u1_struct_0 X0) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 \\
& (k2_group_3 X0 X1 X2) (u1_struct_0 X0))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge \\
& ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \wedge (m1_subset_1 X1 (u1_struct_0 \\
& X0))) \Rightarrow (m1_subset_1 (k2_group_1 X0 X1) (u1_struct_0 X0))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\
& X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (k3_group_5 X0 X1 X2 X3 = k2_group_5 \\
& X0 (k2_group_5 X0 X1 X2) X3))))
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k2_group_3 \\ & X0 X1 X2 = k6_algstr_0 X0 (k6_algstr_0 X0 (k2_group_1 X0 X2) X1) X2))) \end{aligned} \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k3_group_5 \\ & X0 X1 X2 (k2_group_3 X0 X2 X1) = k2_group_5 X0 X2 (k2_group_5 X0 X2 X1)))) \end{aligned}$$