

t30_group_9 (TMUiYbmeHhkteS- roojn3GPTrvCUcpmZXVNN)

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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 $v3_group_9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_group_9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k16_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k19_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_group_9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k15_group_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_group_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge (\\ & (v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))))) \Rightarrow (\\ & \forall X2. (m1_group_9 X2 X0 X1) \Rightarrow (\forall X3. (m1_group_9 X3 X0 \\ & X1) \Rightarrow (k19_group_9 X0 X1 X2 X3 = k18_group_9 X0 X1 (k16_group_9 X0 X1 \\ & X2 X3)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge (\\ & (v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))))) \Rightarrow (\\ & \forall X2. ((v2_group_9 X2 X0) \wedge (m1_group_9 X2 X0 X1)) \Rightarrow (k18_group_9 \\ & X0 X1 (k15_group_9 X0 X1 X2) = X2)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge (\\ & (v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))))) \Rightarrow (\\ & \forall X2. (m1_group_9 X2 X0 X1) \Rightarrow (\forall X3. (m1_group_9 X3 X0 \\ & X1) \Rightarrow (\neg (k2_group_2 X1 (k15_group_9 X0 X1 X2) (k15_group_9 X0 X1 X3) = \\ & k2_group_2 X1 (k15_group_9 X0 X1 X3) (k15_group_9 X0 X1 X2)) \wedge (\forall X4. \\ & ((v2_group_9 X4 X0) \wedge (m1_group_9 X4 X0 X1)) \Rightarrow (u1_struct_0 X4 \neq k2_group_2 \\ & X1 (k15_group_9 X0 X1 X2) (k15_group_9 X0 X1 X3)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge \\ & (v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))) \Rightarrow (\\ & \forall X2. (m1_group_9 X2 X0 X1) \Rightarrow (\forall X3. (m1_group_9 X3 X0 \\ X1) \Rightarrow (k16_group_9 X0 X1 X2 X3 = k2_group_2 X1 (k15_group_9 X0 X1 X2) \\ & (k15_group_9 X0 X1 X3)))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge \\ & (v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))) \Rightarrow (\\ & \forall X2. (m1_group_9 X2 X0 X1) \Rightarrow (k15_group_9 X0 X1 X2 = u1_struct_0 \\ & X2)) \end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_group_1 X1) \wedge \\ & (v3_group_1 X1) \wedge ((v3_group_9 X1 X0) \wedge (l1_group_9 X1 X0)))) \Rightarrow (\\ & \forall X2. (m1_group_9 X2 X0 X1) \Rightarrow (\forall X3. (m1_group_9 X3 X0 \\ X1) \Rightarrow ((k16_group_9 X0 X1 X2 X3 = k16_group_9 X0 X1 X3 X2) \Rightarrow (u1_struct_0 \\ & (k19_group_9 X0 X1 X2 X3) = k16_group_9 X0 X1 X2 X3)))) \end{aligned}$$