

t26_msualg_6 (TMaBKDgk- FwB5sPQrND7MASwAAmyVCtEJDuQ)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $v4_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l3_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_msualg_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_msualg_6 : \iota \Rightarrow \iota$ be given. Let $m2_msualg_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u3_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_msualg_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_msualg_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 \\
& X0))) \Rightarrow (\forall X1.((v4_msualg_1 X1 X0) \wedge (l3_msualg_1 X1 X0)) \Rightarrow \\
& (\forall X2.((v4_msualg_1 X2 X0) \wedge (l3_msualg_1 X2 X0)) \Rightarrow (\forall X3. \\
& (m2_pboole X3 (u1_struct_0 X0) (u3_msualg_1 X0 X1) (u3_msualg_1 \\
& X0 X2)) \Rightarrow (r1_msualg_3 X0 X1 X2 X3) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow \\
& (r1_rewrite1 (k3_msualg_6 X0) X4 X5) \Rightarrow (\forall X6.(m2_msualg_6 \\
& X6 X0 X1 X4 X5) \Rightarrow (\exists X7.(m2_msualg_6 X7 X0 X2 X4 X5) \wedge (r2_funct_2 \\
& (k1_funct_1 (u3_msualg_1 X0 X1) X4) (k1_funct_1 (u3_msualg_1 X0 \\
& X2) X5) (k1_partfun1 (k1_funct_1 (u3_msualg_1 X0 X1) X4) (k1_funct_1 \\
& (u3_msualg_1 X0 X2) X4) (k1_funct_1 (u3_msualg_1 X0 X2) X4) (k1_funct_1 \\
& (u3_msualg_1 X0 X2) X5) (k1_msualg_3 (u1_struct_0 X0) (u3_msualg_1 \\
& X0 X1) (u3_msualg_1 X0 X2) X3 X4) X7) (k1_partfun1 (k1_funct_1 (u3_msualg_1 \\
& X0 X1) X4) (k1_funct_1 (u3_msualg_1 X0 X1) X5) (k1_funct_1 (u3_msualg_1 \\
& X0 X1) X5) (k1_funct_1 (u3_msualg_1 X0 X2) X5) X6 (k1_msualg_3 (u1_struct_0 \\
& X0) (u3_msualg_1 X0 X1) (u3_msualg_1 X0 X2) X3 X5))))))))))))) \\
& \tag{1}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge \\
& (l1_msualg_1 X0))) \wedge (l3_msualg_1 X1 X0)) \Rightarrow (\forall X2.(m1_msualg_6 \\
& X2 X0 X1) \Rightarrow (m2_pboole X2 (u1_struct_0 X0) (u3_msualg_1 X0 X1) (u3_msualg_1 \\
& X0 X1))) \\
& \tag{2}
\end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 \\ & \quad X0))) \Rightarrow (\forall X1.(l3_msualg_1 X1 X0) \Rightarrow (\forall X2.(m2_pboole \\ & X2 (u1_struct_0 X0) (u3_msualg_1 X0 X1) (u3_msualg_1 X0 X1)) \Rightarrow ((\\ & \quad m1_msualg_6 X2 X0 X1) \Leftrightarrow (r1_msualg_3 X0 X1 X1 X2)))) \end{aligned} \quad (3)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 \\ & \quad X0))) \Rightarrow (\forall X1.((v4_msualg_1 X1 X0) \wedge (l3_msualg_1 X1 X0)) \Rightarrow \\ & \quad (\forall X2.(m1_msualg_6 X2 X0 X1) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & \quad (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\ & \quad ((r1_rewrite1 (k3_msualg_6 X0) X3 X4) \Rightarrow (\forall X5.(m2_msualg_6 \\ & \quad X5 X0 X1 X3 X4) \Rightarrow (\exists X6.(m2_msualg_6 X6 X0 X1 X3 X4) \wedge (r2_funct_2 \\ & \quad (k1_funct_1 (u3_msualg_1 X0 X1) X3) (k1_funct_1 (u3_msualg_1 X0 \\ & \quad X1) X4) (k1_partfun1 (k1_funct_1 (u3_msualg_1 X0 X1) X3) (k1_funct_1 \\ & \quad (u3_msualg_1 X0 X1) X3) (k1_funct_1 (u3_msualg_1 X0 X1) X3) (k1_funct_1 \\ & \quad (u3_msualg_1 X0 X1) X4) (k1_msualg_3 (u1_struct_0 X0) (u3_msualg_1 \\ & \quad X0 X1) (u3_msualg_1 X0 X1) X2 X3) X6) (k1_partfun1 (k1_funct_1 (u3_msualg_1 \\ & \quad X0 X1) X3) (k1_funct_1 (u3_msualg_1 X0 X1) X4) (k1_funct_1 (u3_msualg_1 \\ & \quad X0 X1) X4) (k1_funct_1 (u3_msualg_1 X0 X1) X4) X5 (k1_msualg_3 (u1_struct_0 \\ & \quad X0) (u3_msualg_1 X0 X1) (u3_msualg_1 X0 X1) X2 X4)))))))))) \end{aligned}$$