

t36_tmap_1 (TMHsrx- CqHKXLwa7NqmR6f8Cvy8J5NbkqDcr)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tsep_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_tsep_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge (m1_pre_topc X1 X0)) \Rightarrow (\\ & \forall X2.((\neg v2_struct_0 X2) \wedge (m1_pre_topc X2 X0)) \Rightarrow ((\neg r1_tsep_1 \\ & X1 X2) \Rightarrow ((m1_pre_topc (k2_tsep_1 X0 X1 X2) X1) \wedge (m1_pre_topc (k2_tsep_1 \\ & X0 X1 X2) X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge (m1_pre_topc X1 X0)) \Rightarrow (\\ & \forall X2.((\neg v2_struct_0 X2) \wedge (m1_pre_topc X2 X0)) \Rightarrow (\forall X3. \\ & ((\neg v2_struct_0 X3) \wedge (m1_pre_topc X3 X0)) \Rightarrow (((\neg r1_tsep_1 X1 X2) \Rightarrow \\ & (k2_tsep_1 X0 X1 X2 = k2_tsep_1 X0 X2 X1)) \wedge (((\neg r1_tsep_1 X1 X2) \wedge \\ & (\neg r1_tsep_1 (k2_tsep_1 X0 X1 X2) X3)) \vee ((\neg r1_tsep_1 X2 X3) \wedge (\neg r1_tsep_1 \\ & X1 (k2_tsep_1 X0 X2 X3)))))) \Rightarrow (k2_tsep_1 X0 (k2_tsep_1 X0 X1 X2) X3 = \\ & k2_tsep_1 X0 X1 (k2_tsep_1 X0 X2 X3)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge (m1_pre_topc X1 X0)) \Rightarrow (\\ & \forall X2.((\neg v2_struct_0 X2) \wedge (m1_pre_topc X2 X0)) \Rightarrow (\forall X3. \\ & ((\neg v2_struct_0 X3) \wedge (m1_pre_topc X3 X0)) \Rightarrow ((m1_pre_topc X1 X2) \Rightarrow \\ & (((r1_tsep_1 X1 X3) \wedge (r1_tsep_1 X3 X1)) \vee ((\neg r1_tsep_1 X2 X3) \wedge (\neg \\ & r1_tsep_1 X3 X2)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (l1_pre_topc \\ & X0)) \wedge (((\neg v2_struct_0 X1) \wedge (m1_pre_topc X1 X0)) \wedge ((\neg v2_struct_0 \\ & X2) \wedge (m1_pre_topc X2 X0)))) \Rightarrow ((\neg v2_struct_0 (k2_tsep_1 X0 X1 X2)) \wedge \\ & ((v1_pre_topc (k2_tsep_1 X0 X1 X2)) \wedge (m1_pre_topc (k2_tsep_1 X0 \\ & X1 X2) X0))) \end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0)) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge (m1_pre_topc X1 X0)) \Rightarrow (\\ & \forall X2. ((\neg v2_struct_0 X2) \wedge (m1_pre_topc X2 X0)) \Rightarrow (\forall X3. \\ & ((\neg v2_struct_0 X3) \wedge (m1_pre_topc X3 X0)) \Rightarrow ((\neg r1_tsep_1 X1 X2) \Rightarrow \\ & (((\neg r1_tsep_1 (k2_tsep_1 X0 X1 X2) X3) \Rightarrow ((\neg r1_tsep_1 X1 X3) \wedge (\neg r1_tsep_1 \\ & X2 X3))) \wedge ((\neg r1_tsep_1 X3 (k2_tsep_1 X0 X1 X2)) \Rightarrow ((\neg r1_tsep_1 X3 \\ & X1) \wedge (\neg r1_tsep_1 X3 X2)))))))))) \end{aligned}$$