

t60_circcomb
(TMGy1J3AsJEb3nevriPMiqcu2ub3UvU5Vsw)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_circcomb : \iota \Rightarrow o$ be given. Let $v2_circcomb : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $l3_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v6_circcomb : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_circcomb : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_circcomb : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u3_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u4_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_circcomb : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge (l1_msualg_1 X1)) \Rightarrow (\forall X2.(l3_msualg_1 \\ & X2 X0) \Rightarrow (\forall X3.(l3_msualg_1 X3 X1) \Rightarrow (((v6_circcomb X2 X0) \wedge \\ & (v6_circcomb X3 X1)) \Rightarrow (r1_partfun1 (u3_msualg_1 X0 X2) (u3_msualg_1 \\ & X1 X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge (l1_msualg_1 X1)) \Rightarrow (\forall X2.(l3_msualg_1 \\ & X2 X0) \Rightarrow (\forall X3.(l3_msualg_1 X3 X1) \Rightarrow (((v4_circcomb X2 X0) \wedge \\ & (v4_circcomb X3 X1)) \Rightarrow (r1_partfun1 (u4_msualg_1 X0 X2) (u4_msualg_1 \\ & X1 X3)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_circcomb X0) \wedge ((v2_circcomb \\ & X0) \wedge (l1_msualg_1 X0)))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v1_circcomb \\ & X1) \wedge ((v2_circcomb X1) \wedge (l1_msualg_1 X1)))) \Rightarrow (r1_circcomb X0 X1)) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge (l1_msualg_1 X1)) \Rightarrow (\forall X2.(l3_msualg_1 \\ & X2 X0) \Rightarrow (\forall X3.(l3_msualg_1 X3 X1) \Rightarrow ((r2_circcomb X0 X1 X2 X3) \Leftrightarrow \\ & ((r1_circcomb X0 X1) \wedge ((r1_partfun1 (u3_msualg_1 X0 X2) (u3_msualg_1 \\ & X1 X3)) \wedge (r1_partfun1 (u4_msualg_1 X0 X2) (u4_msualg_1 X1 X3)))))) \end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_circcomb X0) \wedge ((v2_circcomb \\ & X0) \wedge (l1_msualg_1 X0)))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v1_circcomb \\ & X1) \wedge ((v2_circcomb X1) \wedge (l1_msualg_1 X1)))) \Rightarrow (\forall X2.(l3_msualg_1 \\ & X2 X0) \Rightarrow (\forall X3.(l3_msualg_1 X3 X1) \Rightarrow (((v6_circcomb X2 X0) \wedge \\ & ((v4_circcomb X2 X0) \wedge ((v6_circcomb X3 X1) \wedge (v4_circcomb X3 X1)))) \Rightarrow \\ & (r2_circcomb X0 X1 X2 X3)))))) \end{aligned}$$