

t40_twoscomp (TMWAUn- ZxbzgX67HGhLw9okqodZJ2NYhmbAr)

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Let $v1_xtuple_0 : \iota \Rightarrow o$ be given. Let $k2_msafree2 : \iota \Rightarrow \iota$ be given. Let $k40_twoscomp : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. 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 $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k3_msafree2 : \iota \Rightarrow \iota$ be given. Let $v1_facirc_1 : \iota \Rightarrow o$ be given. Let $k2_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k37_twoscomp : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $v1_msualg_1 : \iota \Rightarrow o$ be given. Let $v3_circcomb : \iota \Rightarrow o$ be given. Let $k34_twoscomp : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_twoscomp : \iota$ be given. Let $k15_twoscomp : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_circcomb X0) \wedge ((v2_circcomb \\ & X0) \wedge (l1_msualg_1 X0)))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v1_circcomb \\ & X1) \wedge ((v2_circcomb X1) \wedge (l1_msualg_1 X1)))) \Rightarrow (((v1_relat_1 (k3_msafree2 \\ & X0)) \wedge (v1_relat_1 (k3_msafree2 X1))) \Rightarrow ((v1_facirc_1 (k2_msafree2 \\ & X0)) \vee ((v1_facirc_1 (k2_msafree2 X1)) \vee (k2_msafree2 (k2_circcomb \\ & X0 X1) = k2_xboole_0 (k2_msafree2 X0) (k2_msafree2 X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k2_msafree2 (k5_circcomb X0 (k10_finseq_1 X1 X2)) = k2_tarski X1 X2 \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \Rightarrow (v1_relat_1 (k3_msafree2 (k5_circcomb X0 X1))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. k2_xboole_0 X0 X0 = X0 \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1 (k10_finseq_1 X0 X1))\wedge(v1_funct_1 (k10_finseq_1 X0 X1)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xtuple_0 X0)\wedge(\neg v1_xtuple_0 X1))\Rightarrow (\neg v1_facirc_1 (k2_tarski X0 X1)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.v1_finseq_1 (k10_finseq_1 X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(\neg v2_struct_0 (k37_twoscomp X0 X1))\wedge((\neg v11_struct_0 (k37_twoscomp X0 X1))\wedge((v1_msualg_1 (k37_twoscomp X0 X1))\wedge((v1_circcomb (k37_twoscomp X0 X1))\wedge((v2_circcomb (k37_twoscomp X0 X1))\wedge((v3_circcomb (k37_twoscomp X0 X1))\wedge(l1_msualg_1 (k37_twoscomp X0 X1)))))))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(\neg v2_struct_0 (k34_twoscomp X0 X1))\wedge((\neg v11_struct_0 (k34_twoscomp X0 X1))\wedge((v1_msualg_1 (k34_twoscomp X0 X1))\wedge((v1_circcomb (k34_twoscomp X0 X1))\wedge((v2_circcomb (k34_twoscomp X0 X1))\wedge((v3_circcomb (k34_twoscomp X0 X1))\wedge(l1_msualg_1 (k34_twoscomp X0 X1)))))))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.k40_twoscomp X0 X1 = k2_circcomb (k34_twoscomp X0 X1) (k37_twoscomp X0 X1) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.k37_twoscomp X0 X1 = k5_circcomb k3_twoscomp (k10_finseq_1 X0 X1) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.k34_twoscomp X0 X1 = k5_circcomb k15_twoscomp (k10_finseq_1 X0 X1) \quad (12)$$

Theorem 1

$$\forall X0.(\neg v1_xtuple_0 X0)\Rightarrow(\forall X1.(\neg v1_xtuple_0 X1)\Rightarrow(k2_msafree2 (k40_twoscomp X0 X1) = k2_tarski X0 X1))$$