

t4_circcomb

(TMS6a84cUwvxxorhNNHMg8NBXLTWL1CDNKR)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $k2_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g1_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_msualg_1 : \iota \Rightarrow \iota$ be given. Let $u2_msualg_1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $v1_msualg_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X2) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \wedge ((v1_funct_1 \\ & X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow (k7_funct_4 \\ & X0 X1 X2 X3 = k1_funct_4 X2 X3) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X2) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \wedge ((v1_funct_1 \\ & X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow (k7_funct_4 \\ & X0 X1 X2 X2 = X2) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. k2_xboole_0 X0 X0 = X0 \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1_msualg_1 X0) \Rightarrow ((v1_funct_1 (u2_msualg_1 X0)) \wedge \\ & ((v1_funct_2 (u2_msualg_1 X0) (u4_struct_0 X0) (u1_struct_0 X0)) \wedge \\ & (m1_subset_1 (u2_msualg_1 X0) (k1_zfmisc_1 (k2_zfmisc_1 (u4_struct_0 \\ & X0) (u1_struct_0 X0)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_msualg_1 X0) \Rightarrow & ((v1_funct_1 (u1_msualg_1 X0)) \wedge \\ & ((v1_funct_2 (u1_msualg_1 X0) (u4_struct_0 X0) (k3_finseq_2 (\\ & u1_struct_0 X0))) \wedge (m1_subset_1 (u1_msualg_1 X0) (k1_zfmisc_1 \\ & (k2_zfmisc_1 (u4_struct_0 X0) (k3_finseq_2 (u1_struct_0 X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \wedge \\ ((\neg v2_struct_0 X1) \wedge (l1_msualg_1 X1))) \Rightarrow & ((\neg v2_struct_0 (k2_circcomb \\ X0 X1)) \wedge ((v1_msualg_1 (k2_circcomb X0 X1)) \wedge (l1_msualg_1 (k2_circcomb \\ X0 X1)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow & (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge (l1_msualg_1 X1)) \Rightarrow (\forall X2.((\neg v2_struct_0 \\ X2) \wedge ((v1_msualg_1 X2) \wedge (l1_msualg_1 X2))) \Rightarrow & ((X2 = k2_circcomb \\ X0 X1) \Leftrightarrow ((u1_struct_0 X2 = k2_xboole_0 (u1_struct_0 X0) (u1_struct_0 \\ X1)) \wedge ((u4_struct_0 X2 = k2_xboole_0 (u4_struct_0 X0) (u4_struct_0 \\ X1)) \wedge ((u1_msualg_1 X2 = k1_funct_4 (u1_msualg_1 X0) (u1_msualg_1 \\ X1)) \wedge (u2_msualg_1 X2 = k1_funct_4 (u2_msualg_1 X0) (u2_msualg_1 \\ X1)))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_msualg_1 X0) \Rightarrow & ((v1_msualg_1 X0) \Rightarrow (X0 = g1_msualg_1 \\ (u1_struct_0 X0) (u4_struct_0 X0) (u1_msualg_1 X0) (u2_msualg_1 \\ X0))) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow & (k2_circcomb \\ X0 X0 = g1_msualg_1 (u1_struct_0 X0) (u4_struct_0 X0) (u1_msualg_1 \\ X0) (u2_msualg_1 X0)) \end{aligned}$$