

t45_circcmb3 (TMN-
pCgV8zhoDiuyhVK2n7JNyZdNdoysRwDL)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ 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 $m1_circcmb3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_msafree2 : \iota \Rightarrow \iota$ be given. Let $k3_circcmb3 : \iota \Rightarrow \iota$ be given. Let $k4_circcmb3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_msafree2 : \iota \Rightarrow \iota$ be given. Let $k6_circcmb3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v3_card_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. k1_enumset1 X0 X1 X2 = k1_enumset1 X1 X0 X2 \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (\neg X0 \in X1) \Rightarrow (r1_xboole_0 (k1_tarski X0) X1) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X2) \wedge (v1_finset_1 X2)) \Rightarrow (\forall X3. (m1_subset_1 X3 k5_numbers) \Rightarrow (\forall X4. ((\\ & v1_funct_1 X4) \wedge ((v1_funct_2 X4 (k4_finseq_2 X3 X2) X2) \wedge (m1_subset_1 \\ & X4 (k1_zfmisc_1 (k2_zfmisc_1 (k4_finseq_2 X3 X2) X2)))))) \Rightarrow (\forall X5. \\ & ((v1_relat_1 X5) \wedge ((v1_funct_1 X5) \wedge ((v3_card_1 X5 X3) \wedge (v1_finseq_1 \\ & X5)))) \Rightarrow (\forall X6. (m1_circcmb3 X6 X2) \Rightarrow (((k10_xtuple_0 X5 = k2_xboole_0 \\ & X0 X1) \wedge ((r1_tarski X0 (u1_struct_0 X6)) \wedge (r1_xboole_0 X1 (k3_msafree2 \\ & X6)))) \Rightarrow ((k3_circcmb3 (k4_circcmb3 X3 X2 X4 X5) \in k2_msafree2 X6) \vee \\ & (k2_msafree2 (k6_circcmb3 X2 X6 (k4_circcmb3 X3 X2 X4 X5)) = k2_xboole_0 \\ & (k2_msafree2 X6) X1)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(r1_tarSKI (k2_tarSKI X0 X1) X2)\Leftrightarrow((X0 \in X2)\wedge(X1 \in X2)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k1_enumset1 X0 X1 X2 = k2_xboole_0 (k1_tarSKI X0) (k2_tarSKI X1 X2) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k10_xtuple_0 (k11_finseq_1 X0 X1 X2) = k1_enumset1 X0 X1 X2 \quad (6)$$

Assume the following.

$$((v2_xxreal_0 np_3)\wedge(m2_subset_1 np_3 k1_numbers k5_numbers))\wedge ((m1_subset_1 np_3 k5_numbers)\wedge(m1_subset_1 np_3 k1_numbers)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(v1_relat_1 (k11_finseq_1 X0 X1 X2))\wedge(v1_funct_1 (k11_finseq_1 X0 X1 X2)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.v3_card_1 (k11_finseq_1 X0 X1 X2) np_3 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.v1_finseq_1 (k11_finseq_1 X0 X1 X2) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.k2_xboole_0 X0 X1 = k2_xboole_0 X1 X0 \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X3)\wedge \\ & (v1_finset_1 X3))\Rightarrow(\forall X4.((v1_funct_1 X4)\wedge((v1_funct_2 \\ & X4 (k4_finseq_2 np_3 X3) X3)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k4_finseq_2 np_3 X3) X3))))))\Rightarrow(\forall X5.(m1_circcmb3 X5 X3)\Rightarrow \\ & (((X0 \in u1_struct_0 X5)\wedge(X2 \in u1_struct_0 X5))\Rightarrow((X1 \in k3_msafree2 \\ & X5)\vee((k3_circcmb3 (k4_circcmb3 np_3 X3 X4 (k11_finseq_1 X0 X1 \\ & X2)) \in k2_msafree2 X5)\vee(k2_msafree2 (k6_circcmb3 X3 X5 (k4_circcmb3 \\ & np_3 X3 X4 (k11_finseq_1 X0 X1 X2))) = k2_xboole_0 (k2_msafree2 \\ & X5) (k1_tarSKI X1)))))) \end{aligned}$$