

t40_circcmb3 (TMMigiEngmUw- BCJU3vZbdGFGovLWhtVanbv)

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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 $np_2 : \iota$ 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 $k3_circcmb3 : \iota \Rightarrow \iota$ be given. Let $k4_circcmb3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_msafree2 : \iota \Rightarrow \iota$ be given. Let $k6_circcmb3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ 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 $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ 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.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((\neg v1_xboole_0 \\ & X1) \wedge (v1_finset_1 X1)) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 (k4_finseq_2 X0 X1) X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k4_finseq_2 X0 X1) X1)))))) \Rightarrow (\forall X3.((v1_relat_1 X3) \wedge ((v1_funct_1 \\ & X3) \wedge (v3_card_1 X3 X0) \wedge (v1_finseq_1 X3)))) \Rightarrow (\forall X4.(m1_circcmb3 \\ & X4 X1) \Rightarrow ((r1_tarski (k10_xtuple_0 X3) (u1_struct_0 X4)) \Rightarrow ((k3_circcmb3 \\ & (k4_circcmb3 X0 X1 X2 X3) \in k2_msafree2 X4) \vee (k2_msafree2 (k6_circcmb3 \\ & X1 X4 (k4_circcmb3 X0 X1 X2 X3)) = k2_msafree2 X4)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(r1_tarski (k2_tarski X0 X1) \\ & X2) \Leftrightarrow ((X0 \in X2) \wedge (X1 \in X2)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.k10_xtuple_0 (k10_finseq_1 X0 X1) = k2_tarski \\ & X0 X1 \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \end{aligned} \quad (4)$$

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.

$$\forall X0.\forall X1.v3_card_1 (k10_finseq_1 X0 X1) \quad np_2 \quad (6)$$

Assume the following.

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

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X2) \wedge (v1_finset_1 \\ & X2)) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (k4_finseq_2 \\ & np_2 X2) X2) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k4_finseq_2 \\ & np_2 X2) X2)))))) \Rightarrow (\forall X4.(m1_circcmb3 X4 X2) \Rightarrow (((X0 \in u1_struct_0 \\ & X4) \wedge (X1 \in u1_struct_0 X4)) \Rightarrow ((k3_circcmb3 (k4_circcmb3 np_2 X2 \\ & X3 (k10_finseq_1 X0 X1)) \in k2_msafree2 X4) \vee (k2_msafree2 (k6_circcmb3 \\ & X2 X4 (k4_circcmb3 np_2 X2 X3 (k10_finseq_1 X0 X1))) = k2_msafree2 \\ & X4)))))) \end{aligned}$$