t47_circcmb3 (TMPH4Baf33aepgvvHY2Lj5TKUCThXV8MhLv)

October 27, 2020

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 $k4\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k3\_circcmb3 : \iota \Rightarrow \iota$ be given. Let $k4\_circcmb3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_tarski : \iota \Rightarrow \iota$ 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 $k10\_xtuple\_0 : \iota \Rightarrow \iota$ 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.

$$\forall X0.\forall X1.\forall X2.((r1\_tarski\ X0\ X1) \wedge (r1\_tarski\ X2\ X1)) \Rightarrow (r1\_tarski\ (k2\_xboole\_0\ X0\ X2)\ X1) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k1\_enumset1\ X0\ X1\ X2 = k2\_xboole\_0\ (k2\_tarski\ X0\ X1)\ (k1\_tarski\ X2) \tag{2}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k5\_numbers) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge (v1\_finset\_1\ X1)) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ (k4\_finseq\_2\ X0\ X1)\ X1) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k4\_finseq\_2\ X0\ X1)\ X1))))) \Rightarrow (\forall X3.((v1\_relat\_1\ X3) \wedge ((v1\_funct\_1\ X3) \wedge ((v3\_card\_1\ X3\ X0) \wedge (v1\_finseq\_1\ X3)))) \Rightarrow (\forall X4.(m1\_circcmb3\ X4\ X1) \Rightarrow ((r1\_tarski\ (k10\_xtuple\_0\ X3)\ (u1\_struct\_0\ X4)) \Rightarrow ((k3\_circcmb3\ (k4\_circcmb3\ X0\ X1\ X2\ X3) \in k2\_msafree2\ X4) \vee (k2\_msafree2\ (k6\_circcmb3\ X1\ X4\ (k4\_circcmb3\ X0\ X1\ X2\ X3)) = k2\_msafree2\ X4))))))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(r1\_tarski\ (k2\_tarski\ X0\ X1)\ X2)\Leftrightarrow((X0 \in X2)\wedge(X1 \in X2)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ (k1\_tarski\ X0)\ X1)\Leftrightarrow(X0 \in X1) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k10\_xtuple\_0\ (k11\_finseq\_1\ X0\ X1\ X2) = k1\_enumset1\ X0\ X1\ X2 \tag{6}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_3)\wedge(m2\_subset\_1\ np\_\_3\ k1\_numbers\ k5\_numbers))\wedge((m1\_subset\_1\ np\_\_3\ k5\_numbers)\wedge(m1\_subset\_1\ np\_\_3\ k1\_numbers)) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(v1\_relat\_1\ (k11\_finseq\_1\ X0\ X1\ X2))\wedge(v1\_funct\_1\ (k11\_finseq\_1\ X0\ X1\ X2)) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.v3\_card\_1\ (k11\_finseq\_1\ X0\ X1\ X2)\ np\_\_3 \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.v1\_finseq\_1\ (k11\_finseq\_1\ X0\ X1\ X2) \tag{10}$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X3)\wedge(v1\_finset\_1\ X3))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (k4\_finseq\_2\ np\_\_3\ X3)\ X3)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k4\_finseq\_2\ np\_\_3\ X3)\ X3)))))\Rightarrow(\forall X5.(m1\_circcmb3\ X5\ X3)\Rightarrow(((X0 \in u1\_struct\_0\ X5)\wedge((X1 \in u1\_struct\_0\ X5)\wedge(X2 \in u1\_struct\_0\ X5)))\Rightarrow((k3\_circcmb3\ (k4\_circcmb3\ np\_\_3\ X3\ X4\ (k11\_finseq\_1\ X0\ X1\ X2)) \in k2\_msafree2\ X5)\vee(k2\_msafree2\ (k6\_circcmb3\ X3\ X5\ (k4\_circcmb3\ np\_\_3\ X3\ X4\ (k11\_finseq\_1\ X0\ X1\ X2))) = k2\_msafree2\ X5)))))$$