

t44\_facirc\_1

(TMWk6pFs3BZ2w5vzRgkkErEBceebMyA3n2n)

October 27, 2020

Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k5\_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $v11\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_msualg\_1 : \iota \Rightarrow o$  be given. Let  $l1\_msualg\_1 : \iota \Rightarrow o$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_msualg\_1 : \iota \Rightarrow \iota$  be given. Let  $u2\_msualg\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. k10\_xtuple\_0 (k11\_finseq\_1 X0 X1 X2) = k1\_enumset1 X0 X1 X2 \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (v1\_relat\_1 (k11\_finseq\_1 X0 X1 X2)) \wedge (v1\_funct\_1 (k11\_finseq\_1 X0 X1 X2)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. v1\_finseq\_1 (k11\_finseq\_1 X0 X1 X2) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1)) \Rightarrow ((\neg v11\_struct\_0 (k5\_circcomb X0 X1)) \wedge (v1\_msualg\_1 (k5\_circcomb X0 X1)) \wedge (l1\_msualg\_1 (k5\_circcomb X0 X1))) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v1\_finseq\_1 \\ X1)))\Rightarrow(\forall X2.((\neg v11\_struct\_0 X2)\wedge((v1\_msualg\_1 X2)\wedge(l1\_msualg\_1 \\ X2)))\Rightarrow((X2 = k5\_circcomb X0 X1)\Leftrightarrow((u1\_struct\_0 X2 = k2\_xboole\_0 \\ (k10\_xtuple\_0 X1) (k1\_tarski (k4\_tarski X1 X0)))\wedge((u4\_struct\_0 \\ X2 = k1\_tarski (k4\_tarski X1 X0))\wedge((k1\_funct\_1 (u1\_msualg\_1 X2) \\ (k4\_tarski X1 X0) = X1)\wedge(k1\_funct\_1 (u2\_msualg\_1 X2) (k4\_tarski \\ X1 X0) = k4\_tarski X1 X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.k4\_tarski X0 X1 = k2\_tarski (k2\_tarski X0 X1) (k1\_tarski X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2\_xboole\_0 X0 X1)\Leftrightarrow(\forall X3. \\ (X3 \in X2)\Leftrightarrow((X3 \in X0)\vee(X3 \in X1))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(X3 = k1\_enumset1 \\ X0 X1 X2)\Leftrightarrow(\forall X4.(X4 \in X3)\Leftrightarrow(\neg(X4 \neq X0)\wedge((X4 \neq X1)\wedge(X4 \neq X2)))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0 X0 X1 = k2\_xboole\_0 X1 X0 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.k2\_tarski X0 X1 = k2\_tarski X1 X0 \quad (10)$$

**Theorem 1**

$$\forall X0.\forall X1.\forall X2.\forall X3.(X0 \in u1\_struct\_0 \\ (k5\_circcomb X3 (k11\_finseq\_1 X0 X1 X2)))\wedge((X1 \in u1\_struct\_0 (k5\_circcomb \\ X3 (k11\_finseq\_1 X0 X1 X2)))\wedge(X2 \in u1\_struct\_0 (k5\_circcomb X3 ( \\ k11\_finseq\_1 X0 X1 X2))))$$