t49_circcomb (TMXzpNMrCUjxfDHVB-mZWq6oxBvg6xwbfzhr)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v1\_circcomb : \iota \Rightarrow o$ be given. Let $l1\_msualg\_1 : \iota \Rightarrow o$ be given. Let $k2\_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_partfun1 : \iota \Rightarrow \iota$ be given. Let $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_msualg\_1 : \iota \Rightarrow o$ be given. Let $u2\_msualg\_1 : \iota \Rightarrow \iota$ be given. Let $u4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $u1\_msualg\_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.k1\_funct\_4\ (k6\_partfun1\ X0)\ (k6\_partfun1\ X1) = k6\_partfun1\ (k2\_xboole\_0\ X0\ X1) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0))\wedge((\neg v2\_struct\_0\ X1)\wedge(l1\_msualg\_1\ X1)))\Rightarrow((\neg v2\_struct\_0\ (k2\_circcomb\ X0\ X1))\wedge((v1\_msualg\_1\ (k2\_circcomb\ X0\ X1))\wedge(l1\_msualg\_1\ (k2\_circcomb\ X0\ X1)))) \tag{2}$$

Assume the following.

$$\forall X0.(l1\_msualg\_1\ X0)\Rightarrow((v1\_circcomb\ X0)\Leftrightarrow(u2\_msualg\_1\ X0 = k6\_partfun1\ (u4\_struct\_0\ X0))) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_msualg\_1\ X0))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge(l1\_msualg\_1\ X1))\Rightarrow(\forall X2.((\neg v2\_struct\_0\ X2)\wedge((v1\_msualg\_1\ X2)\wedge(l1\_msualg\_1\ X2)))\Rightarrow((X2 = k2\_circcomb\ X0\ X1)\Leftrightarrow((u1\_struct\_0\ X2 = k2\_xboole\_0\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))\wedge((u4\_struct\_0\ X2 = k2\_xboole\_0\ (u4\_struct\_0\ X0)\ (u4\_struct\_0\ X1))\wedge((u1\_msualg\_1\ X2 = k1\_funct\_4\ (u1\_msualg\_1\ X0)\ (u1\_msualg\_1\ X1))\wedge(u2\_msualg\_1\ X2 = k1\_funct\_4\ (u2\_msualg\_1\ X0)\ (u2\_msualg\_1\ X1)))))))) \tag{4}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v1\_circcomb\ X0)\wedge(l1\_msualg\_1\ X0)))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v1\_circcomb\ X1)\wedge(l1\_msualg\_1\ X1)))\Rightarrow(v1\_circcomb\ (k2\_circcomb\ X0\ X1)))$$