

t40\_circcomb  
(TMWgvoSJD6SdeSaHWW8zvCQsBD9j5zP15eT)

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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  $u1\_msualg\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k13\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u2\_msualg\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_circcomb : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1))) \Rightarrow (k5\_circcomb X0 X1 = k4\_circcomb X0 X1 (k4\_tarski X1 X0)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1\_relat\_1 X2) \wedge ((v1\_funct\_1 X2) \wedge (v1\_finseq\_1 X2))) \Rightarrow ((u1\_msualg\_1 (k4\_circcomb X0 X2 X1) = k13\_funcop\_1 X2 X0 X2) \wedge (u2\_msualg\_1 (k4\_circcomb X0 X2 X1) = k13\_funcop\_1 X2 X0 X1)) \quad (2)$$

**Theorem 1**

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1))) \Rightarrow ((u1\_msualg\_1 (k5\_circcomb X0 X1) = k13\_funcop\_1 X1 X0 X1) \wedge (u2\_msualg\_1 (k5\_circcomb X0 X1) = k13\_funcop\_1 X1 X0 (k4\_tarski X1 X0)))$$