

t8\_circcmb2

(TMZPupipEHp9Y4qkrNuZFKfHQvhuYzXgLye)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_facirc\_1 : \iota \Rightarrow o$  be given. Let  $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. (\neg v1\_facirc\_1 X0) \Rightarrow (\forall X1. (v1\_relat\_1 X1) \Rightarrow (k4\_xboole\_0 X0 X1 = X0)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k4\_xboole\_0 (k4\_xboole\_0 X0 X1) X2 = k4\_xboole\_0 X0 (k2\_xboole\_0 X1 X2) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Rightarrow (k2\_xboole\_0 X0 X1 = X1) \quad (3)$$

**Theorem 1**

$$\forall X0. \forall X1. \forall X2. (v1\_relat\_1 X2) \Rightarrow ((r1\_tarski X1 X2) \Rightarrow ((v1\_facirc\_1 (k4\_xboole\_0 X0 X1)) \vee (k4\_xboole\_0 X0 X2 = k4\_xboole\_0 X0 X1)))$$