

t98\_xboole\_1  
(TMa5Fek1ng3GDrWNxsi6fxTborak1TovQhe)

October 27, 2020

Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. k2\_xboole\_0 X0 (k4\_xboole\_0 X1 X0) = k2\_xboole\_0 X0 X1 \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. k5\_xboole\_0 X0 X1 = k2\_xboole\_0 (k4\_xboole\_0 X0 X1) (k4\_xboole\_0 X1 X0) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (X2 = k4\_xboole\_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (\neg X3 \in X1))) \quad (3)$$

**Theorem 1**

$$\forall X0. \forall X1. k2\_xboole\_0 X0 X1 = k5\_xboole\_0 X0 (k4\_xboole\_0 X1 X0)$$