

t32\_xboole\_1

(TMc91y33EJhEctoNjMSo8AmwXLCe4hx4sqA)

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

$$\forall X0. \forall X1. (\forall X2. (X2 \in X0) \Leftrightarrow (X2 \in X1)) \Rightarrow (X0 = X1) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (X2 = k4\_xboole\_0 X0 X1) \Leftrightarrow (\forall X3. \\ (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (\neg X3 \in X1))) \end{aligned} \quad (2)$$

**Theorem 1**  $\forall X0. \forall X1. (k4\_xboole\_0 X0 X1 = k4\_xboole\_0 X1 X0) \Rightarrow (X0 = X1).$