

t49_xboole_1 (TMcApGyEHuD-
kPADf4vgT2H3CsrN4Wf1DAA2)

October 27, 2020

Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (X2 = k4_xboole_0 X0 X1) \Leftrightarrow (\forall X3. \\ (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (\neg X3 \in X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (X2 = k3_xboole_0 X0 X1) \Leftrightarrow (\forall X3. \\ (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \end{aligned} \quad (2)$$

Theorem 1

$$\begin{aligned} \forall X0. \forall X1. \forall X2. k3_xboole_0 X0 (k4_xboole_0 \\ X1 X2) = k4_xboole_0 (k3_xboole_0 X0 X1) X2 \end{aligned}$$