

t4\_mycielsk (TMRgJGQsqfX-  
TUVf7Rk7MB2wFLBRvN2Bi9Gn)

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

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (X2 = k2\_xboole\_0 X0 X1) \Leftrightarrow (\forall X3. \\ (X3 \in X2) \Leftrightarrow ((X3 \in X0) \vee (X3 \in X1))) \end{aligned} \quad (1)$$

**Theorem 1**

$$\begin{aligned} \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ (X5 \in k2\_xboole\_0 (k2\_xboole\_0 (k2\_xboole\_0 (k2\_xboole\_0 X0 X1) \\ X2) X3) X4) \Leftrightarrow (\neg(\neg X5 \in X0) \wedge (\neg X5 \in X1) \wedge (\neg X5 \in X2) \wedge (\neg X5 \in X3) \wedge (\neg X5 \in \\ X4)))) \end{aligned}$$