

# l31\_zfmisc\_1 (TMVtGVNeTnmcPNR- jPR5xqQ7T8DMPLQSDCKo)

October 27, 2020

Let  $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  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.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (X2 = k2\_tarski X0 X1) \Leftrightarrow (\forall X3. \\ (X3 \in X2) \Leftrightarrow ((X3 = X0) \vee (X3 = X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (X1 = k1\_tarski X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow \\ (X2 = X0)) \end{aligned} \quad (3)$$

**Theorem 1**

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (k4\_xboole\_0 (k2\_tarski X0 X1) \\ X2 = k1\_tarski X0) \Leftrightarrow ((\neg X0 \in X2) \wedge ((X1 \in X2) \vee (X0 = X1))) \end{aligned}$$