

# t104\_xboole\_1

(TMYxurgLMxxxHvVz9CDxPzdsYJB.JB2dxarb)

October 27, 2020

Let  $r2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (r3\_xboole\_0 X0 X1) \Leftrightarrow ((r1\_tarski X0 X1) \vee (r1\_tarski X1 X0)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (r2\_xboole\_0 X0 X1) \Leftrightarrow ((r1\_tarski X0 X1) \wedge (X0 \neq X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (X0 = X1) \Leftrightarrow ((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X0)) \quad (3)$$

## Theorem 1

$$\forall X0. \forall X1. (\neg(\neg(r2\_xboole\_0 X0 X1) \wedge ((X0 \neq X1) \wedge (\neg(r2\_xboole\_0 X1 X0)))) \Leftrightarrow (r3\_xboole\_0 X0 X1))$$