

t58\_xboole\_1 (TMP-  
Kkt2vJEDUnK8oFa4PBeEqmR6hfsNHPbu)

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

$$\forall X0. \forall X1. \forall X2. ((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X2)) \Rightarrow (r1\_tarski X0 X2) \quad (1)$$

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**

$$\forall X0. \forall X1. \forall X2. ((r2\_xboole\_0 X0 X1) \wedge (r1\_tarski X1 X2)) \Rightarrow (r2\_xboole\_0 X0 X2)$$