t56_xboole_1 (TMKuQshrjtDn9cUkFhLMt3E7aSYifHoS3bL)

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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.

$$\forall X0.\forall X1.\forall X2.((r1\_tarski\ X0\ X1) \wedge (r2\_xboole\_0\ X1\ X2)) \Rightarrow (r2\_xboole\_0\ X0\ X2) \tag{1}$$

Assume the following.

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

Theorem 1

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