

t87_xboole_1
(TMPjKe1r9D6qai6FbCtda8u4bo2C9BC543G)

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Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (r1_xboole_0 X0 X1) \Leftrightarrow (k4_xboole_0 X0 X1 = X0) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k4_xboole_0 (k2_xboole_0 X0 X1) X2 = k2_xboole_0 (k4_xboole_0 X0 X2) (k4_xboole_0 X1 X2) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (r1_xboole_0 X0 X1) \Rightarrow (r1_xboole_0 X1 X0) \quad (3)$$

Theorem 1

$$\forall X0. \forall X1. \forall X2. (r1_xboole_0 X0 X1) \Rightarrow (k2_xboole_0 (k4_xboole_0 X2 X0) X1 = k4_xboole_0 (k2_xboole_0 X2 X1) X0)$$