

t91_xboole_1
(TMbBrFQSPzdFyPr3FgoFCoAbenguGz9kLjW)

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Let $k5_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. k4_xboole_0 (k2_xboole_0 X0 X1) (k3_xboole_0 X0 X1) = k2_xboole_0 (k4_xboole_0 X0 X1) (k4_xboole_0 X1 X0) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k4_xboole_0 X0 (k4_xboole_0 X1 X2) = k2_xboole_0 (k4_xboole_0 X0 X1) (k3_xboole_0 X0 X2) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k2_xboole_0 (k2_xboole_0 X0 X1) X2 = k2_xboole_0 X0 (k2_xboole_0 X1 X2) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k4_xboole_0 (k2_xboole_0 X0 X1) X2 = k2_xboole_0 (k4_xboole_0 X0 X2) (k4_xboole_0 X1 X2) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k4_xboole_0 (k4_xboole_0 X0 X1) X2 = k4_xboole_0 X0 (k2_xboole_0 X1 X2) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k3_xboole_0 (k3_xboole_0 X0 X1) X2 = k3_xboole_0 X0 (k3_xboole_0 X1 X2) \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. k5_xboole_0 X0 X1 = k2_xboole_0 (k4_xboole_0 X0 X1) (k4_xboole_0 X1 X0) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.k5_xboole_0 X0 X1 = k5_xboole_0 X1 X0 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.k2_xboole_0 X0 X1 = k2_xboole_0 X1 X0 \quad (10)$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.k5_xboole_0 (k5_xboole_0 X0 X1) X2 = k5_xboole_0 X0 (k5_xboole_0 X1 X2)$$