

# t93\_xboole\_1 (TMLEwvYNSNQhd- MgEym2q8eKo2WwcADoCTgH)

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Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. k2\_xboole\_0 (k3\_xboole\_0 X0 X1) (k4\_xboole\_0 X0 X1) = X0 \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k2\_xboole\_0 (k2\_xboole\_0 X0 X1) X2 = k2\_xboole\_0 X0 (k2\_xboole\_0 X1 X2) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. k2\_xboole\_0 X0 (k3\_xboole\_0 X0 X1) = X0 \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. k5\_xboole\_0 X0 X1 = k2\_xboole\_0 (k4\_xboole\_0 X0 X1) (k4\_xboole\_0 X1 X0) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. k3\_xboole\_0 X0 X1 = k3\_xboole\_0 X1 X0 \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. k2\_xboole\_0 X0 X1 = k2\_xboole\_0 X1 X0 \quad (6)$$

**Theorem 1**

$$\forall X0. \forall X1. k2\_xboole\_0 X0 X1 = k2\_xboole\_0 (k5\_xboole\_0 X0 X1) (k3\_xboole\_0 X0 X1)$$