

t3\_trees\_3  
(TMTJD1UjeecmxzyUtS3jxusd9kXVb1MqDiP)

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Let  $v1\_trees\_3 : \iota \Rightarrow o$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_trees\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (X2 = k2\_xboole\_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \vee (X3 \in X1))) \quad (1)$$

Assume the following.

$$\forall X0. (v1\_trees\_3 X0) \Leftrightarrow (\forall X1. (X1 \in X0) \Rightarrow ((\neg v1\_xboole\_0 X1) \wedge (v1\_trees\_1 X1))) \quad (2)$$

**Theorem 1**

$$\forall X0. \forall X1. ((v1\_trees\_3 X0) \wedge (v1\_trees\_3 X1)) \Leftrightarrow (v1\_trees\_3 (k2\_xboole\_0 X0 X1))$$