

# t2\_pboole

(TMEiYMAN3AwvGk3eo2qn9oJ4vqQzvIEoKpe)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v3\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_relat\_1 X0) \Rightarrow (((k9\_xtuple\_0 X0 = k1\_xboole\_0) \vee (k10\_xtuple\_0 X0 = k1\_xboole\_0)) \Rightarrow (X0 = k1\_xboole\_0)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski X0 (k1\_tarski X1)) \Leftrightarrow ((X0 = k1\_xboole\_0) \vee (X0 = k1\_tarski X1)) \quad (2)$$

Assume the following.

$$\forall X0.(v1\_relat\_1 X0) \Rightarrow ((v3\_relat\_1 X0) \Leftrightarrow (\forall X1.(X1 \in k10\_xtuple\_0 X0) \Rightarrow (X1 = k1\_xboole\_0))) \quad (3)$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1\_tarski X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (X2 = X0)) \quad (5)$$

Assume the following.

$$\forall X0.(v1\_relat\_1 X0) \Rightarrow ((v3\_relat\_1 X0) \Leftrightarrow (r1\_tarski (k10\_xtuple\_0 X0) (k1\_tarski k1\_xboole\_0))) \quad (6)$$

Assume the following.

$$\forall X0.((v1\_xboole\_0 X0) \wedge (v1\_relat\_1 X0)) \Rightarrow ((v1\_relat\_1 X0) \wedge (v3\_relat\_1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (v1\_relat\_1 X0) \quad (8)$$

**Theorem 1**

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v3\_relat\_1 X0) \Leftrightarrow ((X0 = k1\_xboole\_0) \vee (k10\_xtuple\_0 X0 = k1\_tarski k1\_xboole\_0)))$$