

t106\_xboolean (TM-  
RRM76MAj6NS8EaBNrxm7NGVmAu8AFwTUy)

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Let  $v1\_xboolean : \iota \Rightarrow o$  be given. Let  $k6\_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboolean : \iota$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $np\_0 : \iota$  be given. Let  $k3\_xboolean : \iota \Rightarrow \iota$  be given. Let  $k1\_xboolean : \iota$  be given. Assume the following.

$$\forall X0.(v1\_xboolean X0) \Rightarrow (\forall X1.(v1\_xboolean X1) \Rightarrow (k6\_xboolean X0 (k6\_xboolean X0 X1) = k6\_xboolean X0 X1)) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xboolean X0) \Rightarrow (\forall X1.(v1\_xboolean X1) \Rightarrow (k6\_xboolean X0 (k6\_xboolean (k6\_xboolean X0 X1) X1) = k2\_xboolean)) \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xboolean X0) \Rightarrow (\forall X1.(v1\_xboolean X1) \Rightarrow (k6\_xboolean X0 (k6\_xboolean X1 X0) = k2\_xboolean)) \quad (3)$$

Assume the following.

$$\forall X0.(v1\_xboolean X0) \Rightarrow (k6\_xboolean X0 X0 = k2\_xboolean) \quad (4)$$

Assume the following.

$$k6\_xcmplx\_0 np\_1 np\_1 = np\_0 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xboolean X0) \wedge (v1\_xboolean X1)) \Rightarrow (v1\_xboolean (k6\_xboolean X0 X1)) \quad (6)$$

Assume the following.

$$v1\_xboolean k2\_xboolean \quad (7)$$

Assume the following.

$$\forall X0.(v1\_xboolean X0) \Rightarrow (v1\_xboolean (k3\_xboolean X0)) \quad (8)$$

Assume the following.

$$\forall X0.(v1\_xboolean\ X0)\Rightarrow(k3\_xboolean\ X0 = k6\_xcmplx\_0\ np\_1\ X0) \quad (9)$$

Assume the following.

$$\forall X0.(v1\_xboolean\ X0)\Leftrightarrow((X0 = k1\_xboolean)\vee(X0 = k2\_xboolean)) \quad (10)$$

Assume the following.

$$k2\_xboolean = np\_1 \quad (11)$$

**Theorem 1**

$$\begin{aligned} &\forall X0.(v1\_xboolean\ X0)\Rightarrow(\forall X1.(v1\_xboolean\ X1)\Rightarrow(\forall X2. \\ &(v1\_xboolean\ X2)\Rightarrow(k6\_xboolean\ (k6\_xboolean\ X0\ X1)\ (k6\_xboolean \\ &(k6\_xboolean\ X1\ X2)\ (k6\_xboolean\ X0\ X2)) = k2\_xboolean))) \end{aligned}$$