

t109_xboolean (TM-
bYsYer1QD1QSqwBXVYnj9vK5L33ZmXVBd)

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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 $k9_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboolean : \iota \Rightarrow \iota$ be given. Let $k5_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1_xboolean : \iota$ be given. Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (k6_xboolean X0 (k9_xboolean X0 X1) = k3_xboolean X0)) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (k5_xboolean (k3_xboolean X0) (k6_xboolean X0 X1) = k6_xboolean X0 X1)) \quad (2)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (k6_xboolean X0 (k6_xboolean (k6_xboolean X0 X1) X1) = k2_xboolean)) \quad (3)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (k6_xboolean X0 (k6_xboolean X1 X0) = k2_xboolean)) \quad (4)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (k6_xboolean X0 X0 = k2_xboolean) \quad (5)$$

Assume the following.

$$k6_xcmplx_0 np_1 np_1 = np_0 \quad (6)$$

Assume the following.

$$k6_xcmplx_0 np_1 np_0 = np_1 \quad (7)$$

Assume the following.

$$\exists X0.v1_xboolean X0 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xboolean X0)\wedge(v1_xboolean X1))\Rightarrow(v1_xboolean (k6_xboolean X0 X1)) \quad (9)$$

Assume the following.

$$v1_xboolean k2_xboolean \quad (10)$$

Assume the following.

$$\forall X0.(v1_xboolean X0)\Rightarrow(v1_xboolean (k3_xboolean X0)) \quad (11)$$

Assume the following.

$$\forall X0.(v1_xboolean X0)\Rightarrow(k3_xboolean X0 = k6_xcmplx_0 np_1 X0) \quad (12)$$

Assume the following.

$$\forall X0.(v1_xboolean X0)\Leftrightarrow((X0 = k1_xboolean)\vee(X0 = k2_xboolean)) \quad (13)$$

Assume the following.

$$k2_xboolean = np_1 \quad (14)$$

Assume the following.

$$\forall X0.(v1_xboolean X0)\Rightarrow(\forall X1.(v1_xboolean X1)\Rightarrow(k9_xboolean X0 X1 = k3_xboolean (k5_xboolean X0 X1))) \quad (15)$$

Theorem 1

$$\forall X0.(v1_xboolean X0)\Rightarrow(\forall X1.(v1_xboolean X1)\Rightarrow(\forall X2.(v1_xboolean X2)\Rightarrow(k6_xboolean (k6_xboolean X0 (k6_xboolean X1 X2)) (k6_xboolean (k6_xboolean X0 X1) (k6_xboolean X0 X2)) = k2_xboolean)))$$