

t23_xboolean (TM-
RKoJ7CFdkJDiRpWNveFJbJzcN1b1ypQyy)

October 27, 2020

Let $v1_xboolean : \iota \Rightarrow o$ be given. Let $k5_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboolean : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $np_0 : \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k6_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboolean : \iota$ be given. Let $k1_xboolean : \iota$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$v1_xboole_0 np_0 \quad (2)$$

Assume the following.

$$k3_xcmplx_0 np_0 np_1 = np_0 \quad (3)$$

Assume the following.

$$k6_xcmplx_0 np_1 np_1 = np_0 \quad (4)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (5)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (k3_xboolean (k3_xboolean X0) = X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xboolean X0) \wedge (v1_xboolean X1)) \Rightarrow (k5_xboolean X0 X0 = X0) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xboolean X0) \wedge (v1_xboolean X1)) \Rightarrow (k4_xboolean X0 X0 = X0) \quad (8)$$

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.

$$\forall X0.\forall X1.((v1_xboolean\ X0)\wedge(v1_xboolean\ X1))\Rightarrow(v1_xboolean\ (k5_xboolean\ X0\ X1)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xboolean\ X0)\wedge(v1_xboolean\ X1))\Rightarrow(v1_xboolean\ (k4_xboolean\ X0\ X1)) \quad (11)$$

Assume the following.

$$v1_xboolean\ k2_xboolean \quad (12)$$

Assume the following.

$$v1_xboolean\ k1_xboolean \quad (13)$$

Assume the following.

$$\forall X0.(v1_xboolean\ X0)\Rightarrow(v1_xboolean\ (k3_xboolean\ X0)) \quad (14)$$

Assume the following.

$$\forall X0.(v1_xboolean\ X0)\Rightarrow(\forall X1.(v1_xboolean\ X1)\Rightarrow(k7_xboolean\ X0\ X1 = k4_xboolean\ (k6_xboolean\ X0\ X1)\ (k6_xboolean\ X1\ X0))) \quad (15)$$

Assume the following.

$$\forall X0.(v1_xboolean\ X0)\Rightarrow(\forall X1.(v1_xboolean\ X1)\Rightarrow(k6_xboolean\ X0\ X1 = k5_xboolean\ (k3_xboolean\ X0)\ X1)) \quad (16)$$

Assume the following.

$$\forall X0.(v1_xboolean\ X0)\Rightarrow(\forall X1.(v1_xboolean\ X1)\Rightarrow(k5_xboolean\ X0\ X1 = k3_xboolean\ (k4_xboolean\ (k3_xboolean\ X0)\ (k3_xboolean\ X1)))) \quad (17)$$

Assume the following.

$$\forall X0.(v1_xboolean\ X0)\Rightarrow(\forall X1.(v1_xboolean\ X1)\Rightarrow(k4_xboolean\ X0\ X1 = k3_xcmplx_0\ X0\ X1)) \quad (18)$$

Assume the following.

$$\forall X0.(v1_xboolean\ X0)\Rightarrow(k3_xboolean\ X0 = k6_xcmplx_0\ np_{-1}\ X0) \quad (19)$$

Assume the following.

$$\forall X0.(v1_xboolean\ X0)\Leftrightarrow((X0 = k1_xboolean)\vee(X0 = k2_xboolean)) \quad (20)$$

Assume the following.

$$k2_xboolean = np_1 \quad (21)$$

Assume the following.

$$k1_xboolean = k6_numbers \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xboolean X0)\wedge(v1_xboolean X1))\Rightarrow(\quad (23)$$
$$k7_xboolean X0 X1 = k7_xboolean X1 X0)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xboolean X0)\wedge(v1_xboolean X1))\Rightarrow(\quad (24)$$
$$k5_xboolean X0 X1 = k5_xboolean X1 X0)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xboolean X0)\wedge(v1_xboolean X1))\Rightarrow(\quad (25)$$
$$k4_xboolean X0 X1 = k4_xboolean X1 X0)$$

Theorem 1

$$\forall X0.(v1_xboolean X0)\Rightarrow(\forall X1.(v1_xboolean X1)\Rightarrow(\forall X2.$$
$$(v1_xboolean X2)\Rightarrow(k5_xboolean X0 (k7_xboolean X1 X2) = k4_xboolean$$
$$(k5_xboolean (k5_xboolean X0 (k3_xboolean X1)) X2) (k5_xboolean$$
$$(k5_xboolean X0 (k3_xboolean X2)) X1))))$$