

t83_xboolean (TM- GRqHS6iR3B3Rh19YBThLQnJW3jRDMyUh2)

October 27, 2020

Let $v1_xboolean : \iota \Rightarrow o$ be given. Let $k10_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $np_0 : \iota$ be given. Let $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k2_xboolean : \iota$ be given. Let $k1_xboolean : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (k10_xboolean X0 (k5_xboolean X0 X1) = k4_xboolean (k3_xboolean X0) X1)) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (k10_xboolean X0 (k4_xboolean X0 X1) = k4_xboolean X0 (k3_xboolean X1))) \quad (2)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (3)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (k5_xboolean X0 (k4_xboolean X0 X1) = X0)) \quad (4)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_xcmplx_0 np_1 X0 = X0) \quad (5)$$

Assume the following.

$$v1_xboole_0 np_0 \quad (6)$$

Assume the following.

$$k3_xcmplx_0 np_1 np_1 = np_1 \quad (7)$$

Assume the following.

$$k3_xcmplx_0 \ np_{-1} \ np_{-0} = np_{-0} \quad (8)$$

Assume the following.

$$k3_xcmplx_0 \ np_{-0} \ np_{-0} = np_{-0} \quad (9)$$

Assume the following.

$$k6_xcmplx_0 \ np_{-1} \ np_{-1} = np_{-0} \quad (10)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (11)$$

Assume the following.

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

Assume the following.

$$v1_xboolean \ k2_xboolean \quad (13)$$

Assume the following.

$$v1_xboolean \ k1_xboolean \quad (14)$$

Assume the following.

$$\forall X0.(v1_xboolean \ X0) \Rightarrow (\forall X1.(v1_xboolean \ X1) \Rightarrow (k5_xboolean \ X0 \ X1 = k3_xboolean \ (k4_xboolean \ (k3_xboolean \ X0) \ (k3_xboolean \ X1)))) \quad (15)$$

Assume the following.

$$\forall X0.(v1_xboolean \ X0) \Rightarrow (\forall X1.(v1_xboolean \ X1) \Rightarrow (k4_xboolean \ X0 \ X1 = k3_xcmplx_0 \ X0 \ X1)) \quad (16)$$

Assume the following.

$$\forall X0.(v1_xboolean \ X0) \Rightarrow (k3_xboolean \ X0 = k6_xcmplx_0 \ np_{-1} \ X0) \quad (17)$$

Assume the following.

$$\forall X0.(v1_xboolean \ X0) \Leftrightarrow ((X0 = k1_xboolean) \vee (X0 = k2_xboolean)) \quad (18)$$

Assume the following.

$$k2_xboolean = np_{-1} \quad (19)$$

Assume the following.

$$k1_xboolean = k6_numbers \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xboolean\ X0)\wedge(v1_xboolean\ X1))\Rightarrow(k5_xboolean\ X0\ X1 = k5_xboolean\ X1\ X0) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xboolean\ X0)\wedge(v1_xboolean\ X1))\Rightarrow(k4_xboolean\ X0\ X1 = k4_xboolean\ X1\ X0) \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xboolean\ X0)\wedge(v1_xboolean\ X1))\Rightarrow(k10_xboolean\ X0\ X1 = k10_xboolean\ X1\ X0) \quad (23)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(v1_xcmplx_0\ X0) \quad (24)$$

Assume the following.

$$\forall X0.(v1_xboolean\ X0)\Rightarrow(v7_ordinal1\ X0) \quad (25)$$

Theorem 1

$$\forall X0.(v1_xboolean\ X0)\Rightarrow(\forall X1.(v1_xboolean\ X1)\Rightarrow(\forall X2.(v1_xboolean\ X2)\Rightarrow(k10_xboolean\ X0\ (k4_xboolean\ X1\ X2) = k4_xboolean\ (k5_xboolean\ X0\ (k4_xboolean\ X1\ X2))\ (k3_xboolean\ X0)\ (k3_xboolean\ (k4_xboolean\ X1\ X2))))))$$