

t115_xboolean
(TMa3eAuxWJBN28hH9r86ZqxkH2HxfkJqQ3m)

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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 $k10_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboolean : \iota \Rightarrow \iota$ be given. Let $k4_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboolean : \iota$ be given. Let $np_1 : \iota$ be given. Let $k6_numbers : \iota$ be given. Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (k10_xboolean (k3_xboolean X0) (k6_xboolean X0 X1) = k4_xboolean X0 X1)) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (\forall X2.(v1_xboolean X2) \Rightarrow (k6_xboolean (k6_xboolean X0 (k6_xboolean X1 X2)) (k6_xboolean (k6_xboolean X0 X1) (k6_xboolean X0 X2)) = k2_xboolean))) \quad (2)$$

Assume the following.

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

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow ((k4_xboolean X0 X1 = k2_xboolean) \Rightarrow ((X0 = k2_xboolean) \wedge (X1 = k2_xboolean)))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xboolean X0) \wedge (v1_xboolean X1)) \Rightarrow (k4_xboolean X0 X0 = X0) \quad (5)$$

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.

$$v1_xboolean \ k1_xboolean \tag{8}$$

Assume the following.

$$\forall X0.(v1_xboolean \ X0) \Leftrightarrow ((X0 = k1_xboolean) \vee (X0 = k2_xboolean)) \tag{9}$$

Assume the following.

$$k2_xboolean = np_1 \tag{10}$$

Assume the following.

$$k1_xboolean = k6_numbers \tag{11}$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_xboolean \ X0) \Rightarrow (\forall X1.(v1_xboolean \ X1) \Rightarrow (\forall X2. \\ & (v1_xboolean \ X2) \Rightarrow ((k6_xboolean \ X0 \ (k6_xboolean \ X1 \ X2) = k2_xboolean) \Rightarrow \\ & (k6_xboolean \ (k6_xboolean \ X0 \ X1) \ (k6_xboolean \ X0 \ X2) = k2_xboolean)))) \end{aligned}$$