

t28_xboolean (TMUken- mGZAQc3hZKvUH2GgRRfFJNv5Bc4kR)

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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 $k6_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboolean : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (k4_xboolean (k3_xboolean X0) (k7_xboolean X0 X1) = k4_xboolean (k3_xboolean X0) (k3_xboolean X1))) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (k5_xboolean X0 (k4_xboolean (k3_xboolean X0) X1) = k5_xboolean X0 X1)) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xboolean X0) \wedge (v1_xboolean X1)) \Rightarrow (v1_xboolean (k7_xboolean X0 X1)) \quad (3)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (v1_xboolean (k3_xboolean X0)) \quad (4)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (k6_xboolean X0 X1 = k5_xboolean (k3_xboolean X0) X1)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xboolean X0) \wedge (v1_xboolean X1)) \Rightarrow (k5_xboolean X0 X1 = k5_xboolean X1 X0) \quad (6)$$

Theorem 1

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (k5_xboolean X0 (k7_xboolean X0 X1) = k6_xboolean X1 X0))$$