

t133_xboolean (TM- RYcRsYo3P4wWk7VNBKg91TJiCwVcCNSLV)

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Let $v1_xboolean : \iota \Rightarrow o$ be given. Let $k7_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboolean : \iota$ be given. Let $k6_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow ((k7_xboolean X0 X1 = k2_xboolean) \Leftrightarrow ((k6_xboolean X0 X1 = k2_xboolean) \wedge (k6_xboolean X1 X0 = k2_xboolean)))) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (k7_xboolean X0 X0 = k2_xboolean) \quad (2)$$

Assume the following.

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

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.((v1_xboolean X0) \wedge (v1_xboolean X1)) \Rightarrow (k7_xboolean X0 X1 = k7_xboolean X1 X0) \quad (5)$$

Theorem 1

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (\forall X2.(v1_xboolean X2) \Rightarrow (\forall X3.(v1_xboolean X3) \Rightarrow (((k7_xboolean X0 X1 = k2_xboolean) \wedge (k7_xboolean X2 X3 = k2_xboolean)) \Rightarrow (k7_xboolean (k6_xboolean X0 X2) (k6_xboolean X1 X3) = k2_xboolean))))))$$