

t58_xboolean

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Let $v1_xboolean : \iota \Rightarrow o$ be given. Let $k8_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboolean : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (\forall X2. \\ & (v1_xboolean X2) \Rightarrow (k8_xboolean X0 (k8_xboolean X1 X2) = k4_xboolean \\ & (k5_xboolean (k3_xboolean X0) X1) (k5_xboolean (k3_xboolean X0) \\ & X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (k6_xboolean \\ & X0 X1 = k5_xboolean (k3_xboolean X0) X1)) \end{aligned} \tag{2}$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (\forall X2. \\ & (v1_xboolean X2) \Rightarrow (k8_xboolean X0 (k8_xboolean X1 X2) = k4_xboolean \\ & (k6_xboolean X0 X1) (k6_xboolean X0 X2)))) \end{aligned}$$