

t25\_xboolean  
(TMcN3Wmva73eNfwYMNc66R2eVYjFskaLWif)

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Let  $v1\_xboolean : \iota \Rightarrow o$  be given. Let  $k4\_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboolean : \iota \Rightarrow \iota$  be given. Let  $k7\_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xboolean X0) \Rightarrow (\forall X1.(v1\_xboolean X1) \Rightarrow (\forall X2. \\ & (v1\_xboolean X2) \Rightarrow (k4\_xboolean X0 (k7\_xboolean X1 X2) = k4\_xboolean \\ & (k4\_xboolean X0 (k5\_xboolean (k3\_xboolean X1) X2)) (k5\_xboolean \\ & (k3\_xboolean X2) X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xboolean X0) \Rightarrow (v1\_xboolean (k3\_xboolean X0)) \tag{2}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(v1\_xboolean X0) \Rightarrow (\forall X1.(v1\_xboolean X1) \Rightarrow (\forall X2. \\ & (v1\_xboolean X2) \Rightarrow (k4\_xboolean (k3\_xboolean X0) (k7\_xboolean \\ & X1 X2) = k4\_xboolean (k4\_xboolean (k3\_xboolean X0) (k5\_xboolean \\ & (k3\_xboolean X1) X2)) (k5\_xboolean (k3\_xboolean X2) X1)))) \end{aligned}$$