

# t10\_heyting1

(TMc9Q89zRbUn2y7HcUk6EHcK66YtacW9qdD)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k12\_normform : \iota \Rightarrow \iota$  be given. Let  $k2\_lattice2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_normform : \iota \Rightarrow \iota$  be given. Let  $k3\_heyting1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_heyting1 : \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_finsub\_1 : \iota \Rightarrow \iota$  be given. Let  $k8\_normform : \iota \Rightarrow \iota$  be given. Let  $k10\_setwiseo : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_setwiseo : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (m2\_subset\_1 X1 (k5\_finsub\_1 (k7\_normform \\ X0)) (k8\_normform X0)) \Rightarrow (k2\_lattice2 (k7\_normform X0) (k12\_normform \\ X0) X1 (k4\_heyting1 X0) = k10\_setwiseo (k7\_normform X0) (k7\_normform \\ X0) X1 (k11\_setwiseo (k7\_normform X0))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k5\_finsub\_1 \\ X0)) \Rightarrow (k10\_setwiseo X0 X0 X1 (k11\_setwiseo X0) = X1)) \tag{2}$$

Assume the following.

$$\forall X0. \neg v1\_xboole\_0 (k8\_normform X0) \tag{3}$$

Assume the following.

$$\forall X0. \neg v1\_xboole\_0 (k7\_normform X0) \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 \\ X2 X0 X1) \Rightarrow (m1\_subset\_1 X2 X0)) \end{aligned} \tag{5}$$

Assume the following.

$$\forall X0. m1\_subset\_1 (k8\_normform X0) (k1\_zfmisc\_1 (k5\_finsub\_1 \\ (k7\_normform X0))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k12\_normform X0)))\Rightarrow(m2\_subset\_1 (k3\_heyting1 X0 X1) (k5\_finsub\_1 (k7\_normform X0)) (k8\_normform X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k12\_normform X0)))\Rightarrow(k3\_heyting1 X0 X1 = X1) \quad (8)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\Rightarrow(v1\_xboole\_0 X1)) \quad (9)$$

**Theorem 1**

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k12\_normform X0)))\Rightarrow(X1 = k2\_lattice2 (k7\_normform X0) (k12\_normform X0) (k3\_heyting1 X0 X1) (k4\_heyting1 X0))$$