

# t7\_heyting1

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Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_finsub\_1 : \iota \Rightarrow \iota$  be given. Let  $k7\_normform : \iota \Rightarrow \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k12\_normform : \iota \Rightarrow \iota$  be given. Let  $k4\_heyting1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_heyting1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 \\ & X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X1 (k7\_normform X0)) \Rightarrow (k2\_heyting1 X0 X1 = k1\_tarski X1) \quad (2)$$

Assume the following.

$$\forall X0. \neg v1\_xboole\_0 (k7\_normform X0) \quad (3)$$

Assume the following.

$$\forall X0. m1\_subset\_1 (k7\_normform X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k5\_finsub\_1 X0) (k5\_finsub\_1 X0))) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v1\_funct\_1 (k4\_heyting1 X0)) \wedge ((v1\_funct\_2 (k4\_heyting1 \\ & X0) (k7\_normform X0) (u1\_struct\_0 (k12\_normform X0))) \wedge (m1\_subset\_1 \\ & (k4\_heyting1 X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k7\_normform X0) ( \\ & u1\_struct\_0 (k12\_normform X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (k7\_normform \\ & X0) (u1\_struct\_0 (k12\_normform X0))) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (k7\_normform X0) (u1\_struct\_0 (k12\_normform X0)))))) \Rightarrow \\ & ((X1 = k4\_heyting1 X0) \Leftrightarrow (\forall X2. (m2\_subset\_1 X2 (k2\_zfmisc\_1 \\ & (k5\_finsub\_1 X0) (k5\_finsub\_1 X0)) (k7\_normform X0)) \Rightarrow (k3\_funct\_2 \\ & (k7\_normform X0) (u1\_struct\_0 (k12\_normform X0)) X1 X2 = k2\_heyting1 \\ & X0 X2))) \end{aligned} \tag{6}$$

Assume the following.

$$\forall X0. \forall X1. (X1 = k1\_tarski X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (X2 = X0)) \tag{7}$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (v1\_xboole\_0 X1)) \tag{8}$$

**Theorem 1**

$$\begin{aligned} & \forall X0. \forall X1. (m2\_subset\_1 X1 (k2\_zfmisc\_1 (k5\_finsub\_1 \\ & X0) (k5\_finsub\_1 X0)) (k7\_normform X0)) \Rightarrow (X1 \in k3\_funct\_2 (k7\_normform \\ & X0) (u1\_struct\_0 (k12\_normform X0)) (k4\_heyting1 X0) X1) \end{aligned}$$