

# t17\_heyting1 (TMaaEL- ZLt5FbWTpCnmJncnurV4q2SXrzbKq)

October 27, 2020

Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k5\_finsub\_1 : \iota \Rightarrow \iota$  be given. Let  $k7\_normform : \iota \Rightarrow \iota$  be given. Let  $k8\_normform : \iota \Rightarrow \iota$  be given. Let  $k8\_funct\_5 : \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$k8\_funct\_5 = k1\_tarski (k4\_tarski k1\_xboole\_0 k1\_xboole\_0) \quad (1)$$

Assume the following.

$$k7\_normform k1\_xboole\_0 = k1\_tarski (k4\_tarski k1\_xboole\_0 k1\_xboole\_0) \quad (2)$$

Assume the following.

$$k5\_finsub\_1 k1\_xboole\_0 = k1\_tarski k1\_xboole\_0 \quad (3)$$

Assume the following.

$$\forall X0.m2\_subset\_1 (k4\_tarski k1\_xboole\_0 k1\_xboole\_0) (k2\_zfmisc\_1 (k5\_finsub\_1 X0) (k5\_finsub\_1 X0)) (k7\_normform X0) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X1 (k7\_normform X0)) \Rightarrow (k2\_heyting1 X0 X1 = k1\_tarski X1) \quad (6)$$

Assume the following.

$$\forall X0.\neg v1\_xboole\_0 (k7\_normform X0) \quad (7)$$

Assume the following.

$$\forall X0. m1\_subset\_1 (k7\_normform X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k5\_finsub\_1 X0) (k5\_finsub\_1 X0))) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X1 (k7\_normform X0)) \Rightarrow (m2\_subset\_1 (k2\_heyting1 X0 X1) (k5\_finsub\_1 (k7\_normform X0)) (k8\_normform X0)) \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. k4\_tarski X0 X1 = k2\_tarski (k2\_tarski X0 X1) (k1\_tarski X0) \quad (10)$$

Assume the following.

$$\forall X0. \forall X1. k2\_tarski X0 X1 = k2\_tarski X1 X0 \quad (11)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (v1\_xboole\_0 X1)) \quad (12)$$

**Theorem 1**

$$\forall X0. m2\_subset\_1 (k1\_tarski (k4\_tarski k1\_xboole\_0 k1\_xboole\_0) (k5\_finsub\_1 (k7\_normform X0)) (k8\_normform X0))$$