

t11_heyting2

(TMbX9EXCNJafDMLU9vSL9uoenZH6kxoxwDC)

October 27, 2020

Let $v1_finset_1 : \iota \Rightarrow o$ 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 $k4_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_substlat : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k2_heyting2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_substlat : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (v1_finset_1 X1) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 (k5_finsub_1 (k4_partfun1 X0 X1)) (k1_substlat X0 X1)) \Rightarrow (k4_substlat \\ & X0 X1 X2 (k2_heyting2 X0 X1 X2) = k1_xboole_0)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k5_finsub_1 \\ & (k4_partfun1 X0 X1))) \Rightarrow (\forall X3. (m1_subset_1 X3 (k5_finsub_1 \\ & (k4_partfun1 X0 X1))) \Rightarrow ((X2 = k1_tarski k1_xboole_0) \Rightarrow (k4_substlat \\ & X0 X1 X3 X2 = X3))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k5_finsub_1 \\ & (k4_partfun1 X0 X1))) \Rightarrow (\forall X3. (m1_subset_1 X3 (k5_finsub_1 \\ & (k4_partfun1 X0 X1))) \Rightarrow (k4_substlat X0 X1 X2 X3 = k4_substlat X0 X1 \\ & X3 X2)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. k1_tarski k1_xboole_0 \in k1_substlat X0 X1 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_finset_1 X1)\wedge(m1_subset_1 X2 (k5_finsub_1 (k4_partfun1 X0 X1))))\Rightarrow(m1_subset_1 (k2_heyting2 X0 X1 X2) (k5_finsub_1 (k4_partfun1 X0 X1))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.m1_subset_1 (k1_substlat X0 X1) (k1_zfmisc_1 (k5_finsub_1 (k4_partfun1 X0 X1))) \quad (7)$$

Theorem 1

$$\forall X0.\forall X1.(v1_finset_1 X1)\Rightarrow(\forall X2.(m2_subset_1 X2 (k5_finsub_1 (k4_partfun1 X0 X1)) (k1_substlat X0 X1))\Rightarrow((X2 = k1_tarski k1_xboole_0)\Rightarrow(k2_heyting2 X0 X1 X2 = k1_xboole_0)))$$