

t4_heyting2

(TMJpC5T7tZrvc1nF4gFcM7qWrE6cJNMrRFE)

October 27, 2020

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 $k3_substlat : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_substlat : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k5_finsub_1 \\ & (k4_partfun1 X0 X1))) \Rightarrow (\forall X3. (X3 \in k3_substlat X0 X1 X2) \Rightarrow (\\ & (X3 \in X2) \wedge (\forall X4. ((X4 \in X2) \wedge (r1_tarski X4 X3)) \Rightarrow (X4 = X3)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k5_finsub_1 \\ & (k4_partfun1 X0 X1))) \Rightarrow (\forall X3. (m1_subset_1 X3 (k5_finsub_1 \\ & (k4_partfun1 X0 X1))) \Rightarrow (\forall X4. \neg (X4 \in k4_substlat X0 X1 X2 X3) \wedge \\ & (\forall X5. \neg (X5 \in X3) \wedge (r1_tarski X5 X4)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \neg v1_xboole_0 (k1_substlat X0 X1) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Rightarrow (m1_subset_1 X2 X0)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X2 \\ & (k5_finsub_1 (k4_partfun1 X0 X1))) \wedge (m1_subset_1 X3 (k5_finsub_1 \\ & (k4_partfun1 X0 X1)))) \Rightarrow (m1_subset_1 (k4_substlat X0 X1 X2 X3) (\\ & k5_finsub_1 (k4_partfun1 X0 X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.m1_subset_1 (k1_substlat X0 X1) (k1_zfmisc_1 (k5_finsub_1 (k4_partfun1 X0 X1))) \quad (6)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m2_subset_1 X2 (k5_finsub_1 \\ & (k4_partfun1 X0 X1)) (k1_substlat X0 X1)) \Rightarrow (\forall X3.(m2_subset_1 \\ & X3 (k5_finsub_1 (k4_partfun1 X0 X1)) (k1_substlat X0 X1)) \Rightarrow ((k3_substlat \\ & X0 X1 (k4_substlat X0 X1 X2 X3) = X2) \Rightarrow (\forall X4.\neg(X4 \in X2) \wedge (\forall X5. \\ & \neg(X5 \in X3) \wedge (r1_tarski X5 X4)))))) \end{aligned}$$