

l32_heyting2

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Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_substlat : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_heyting2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_substlat : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k3_substlat : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_setwiseo : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_finset_1 X2) \wedge (m1_subset_1 X2 (k4_partfun1 X0 X1))) \Rightarrow (k1_tarski X2 \in k1_substlat X0 X1) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m2_subset_1 X2 (k5_finsub_1 (k4_partfun1 X0 X1)) (k1_substlat X0 X1)) \Rightarrow (k3_substlat X0 X1 X2 = X2) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 X0)) \Rightarrow (k2_setwiseo X0 X1 = k1_tarski X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\neg v1_xboole_0 (k1_substlat X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\neg v1_xboole_0 (k4_partfun1 X0 X1) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(v1_finset_1 X1)\Rightarrow((v1_funct_1 (k8_heyting2 \\ X0 X1))\wedge((v1_funct_2 (k8_heyting2 X0 X1) (k4_partfun1 X0 X1) (u1_struct_0 \\ (k5_substlat X0 X1)))\wedge(m1_subset_1 (k8_heyting2 X0 X1) (k1_zfmisc_1 \\ (k2_zfmisc_1 (k4_partfun1 X0 X1) (u1_struct_0 (k5_substlat X0 \\ X1))))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.m1_subset_1 (k1_substlat X0 X1) (k1_zfmisc_1 \\ (k5_finsub_1 (k4_partfun1 X0 X1))) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(v1_finset_1 X1)\Rightarrow(\forall X2.((v1_funct_1 \\ X2)\wedge((v1_funct_2 X2 (k4_partfun1 X0 X1) (u1_struct_0 (k5_substlat \\ X0 X1)))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k4_partfun1 \\ X0 X1) (u1_struct_0 (k5_substlat X0 X1)))))))\Rightarrow((X2 = k8_heyting2 \\ X0 X1)\Leftrightarrow(\forall X3.(m1_subset_1 X3 (k4_partfun1 X0 X1))\Rightarrow(k3_funct_2 \\ (k4_partfun1 X0 X1) (u1_struct_0 (k5_substlat X0 X1)) X2 X3 = k3_substlat \\ X0 X1 (k2_setwiseo (k4_partfun1 X0 X1) X3)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ X0))\Rightarrow(v1_xboole_0 X1)) \quad (11)$$

Theorem 1

$$\begin{aligned} \forall X0.\forall X1.(v1_finset_1 X1)\Rightarrow(\forall X2.(m1_subset_1 \\ X2 (k4_partfun1 X0 X1))\Rightarrow((v1_finset_1 X2)\Rightarrow(k3_funct_2 (k4_partfun1 \\ X0 X1) (u1_struct_0 (k5_substlat X0 X1)) (k8_heyting2 X0 X1) X2 = \\ k1_tarski X2))) \end{aligned}$$