

t17_heyting2

(TMVGrbqZZ1zQt87xZipp1gGPxYR9fbe8C22)

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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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_substlat : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. 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 $v3_lattices : \iota \Rightarrow o$ be given. Let $l3_lattices : \iota \Rightarrow o$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2_lattices : \iota \Rightarrow \iota$ be given. Let $k3_substlat : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_substlat : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_lattices : \iota \Rightarrow \iota$ be given. Let $k4_substlat : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (&(\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ &(m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ &X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (v1_finset_1 X1) \Rightarrow (\forall X2. (m2_subset_1 \\ X2 (k5_finsub_1 (k4_partfun1 X0 X1)) (k1_substlat X0 X1)) \Rightarrow (\forall X3. \\ (r1_tarski X3 X2) \Rightarrow (X3 \in k1_substlat X0 X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \neg v1_xboole_0 (k1_substlat X0 X1) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (v3_lattices (k5_substlat X0 X1)) \wedge (l3_lattices (k5_substlat X0 X1)) \quad (5)$$

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.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v3_lattices\ X2)\wedge(l3_lattices \\ & X2))\Rightarrow((X2 = k5_substlat\ X0\ X1)\Leftrightarrow((u1_struct_0\ X2 = k1_substlat\ X0 \\ & X1)\wedge(\forall X3.(m2_subset_1\ X3\ (k5_finsub_1\ (k4_partfun1\ X0 \\ & X1))\ (k1_substlat\ X0\ X1))\Rightarrow(\forall X4.(m2_subset_1\ X4\ (k5_finsub_1 \\ & (k4_partfun1\ X0\ X1))\ (k1_substlat\ X0\ X1))\Rightarrow((k1_binop_1\ (u2_lattices \\ & X2)\ X3\ X4 = k3_substlat\ X0\ X1\ (k2_substlat\ X0\ X1\ X3\ X4))\wedge(k1_binop_1 \\ & (u1_lattices\ X2)\ X3\ X4 = k3_substlat\ X0\ X1\ (k4_substlat\ X0\ X1\ X3\ X4))))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0))\Rightarrow(v1_xboole_0\ X1)) \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.(v1_finset_1\ X1)\Rightarrow(\forall X2.(m1_subset_1 \\ & X2\ (u1_struct_0\ (k5_substlat\ X0\ X1)))\Rightarrow(\forall X3.(r1_tarski \\ & X3\ X2)\Rightarrow(m1_subset_1\ X3\ (u1_struct_0\ (k5_substlat\ X0\ X1)))))) \end{aligned}$$