

t34_heyting3

(TMZ5FkNdKyihjqRVuzNkp9wmW1475WUXy77)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_heyting3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_finsub_1 : \iota \Rightarrow \iota$ be given. Let $k4_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_heyting2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k3_lattice3 : \iota \Rightarrow \iota$ be given. Let $k5_substlat : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (v1_finset_1 X1) \Rightarrow (\forall X2. (m1_subset_1 X2 (k5_finsub_1 (k4_partfun1 X0 X1))) \Rightarrow (r1_tarski (k1_heyting2 X0 X1 X2) X0)) \quad (1)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (3)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (u1_struct_0 (k1_heyting3 k5_numbers (k6_domain_1 k5_numbers X0)))))) \Rightarrow (\neg (X1 \neq k1_tarski k1_xboole_0) \wedge (\forall X2. ((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_finset_1 X2)))) \Rightarrow (\neg (X2 \in X1) \wedge (X2 \neq k1_xboole_0)))) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 X0)) \Rightarrow (k6_domain_1 X0 X1 = k1_tarski X1) \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v1_relat_1 X0)) \Rightarrow (\neg v1_xboole_0 (k9_xtuple_0 X0)) \quad (7)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1_finset_1 X1) \wedge (m1_subset_1 X2 (k5_finsub_1 (k4_partfun1 X0 X1)))) \Rightarrow (v1_finset_1 (k1_heyting2 X0 X1 X2)) \quad (9)$$

Assume the following.

$$\forall X0. v1_finset_1 (k1_tarski X0) \quad (10)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Leftrightarrow (\forall X1. \neg X1 \in X0) \quad (11)$$

Assume the following.

$$\forall X0. \forall X1. k1_heyting3 X0 X1 = k3_lattice3 (k5_substlat X0 X1) \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (v1_finset_1 X1) \Rightarrow (\forall X2. (m1_subset_1 X2 (k5_finsub_1 (k4_partfun1 X0 X1))) \Rightarrow (\forall X3. (X3 = k1_heyting2 X0 X1 X2) \Leftrightarrow (\forall X4. (X4 \in X3) \Leftrightarrow (\exists X5. ((v1_relat_1 X5) \wedge (v1_funct_1 X5) \wedge (v1_finset_1 X5)))) \wedge ((X5 \in X2) \wedge (X4 \in k9_xtuple_0 X5)))))) \end{aligned} \quad (13)$$

Theorem 1

$$\begin{aligned} \forall X0. (m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (u1_struct_0 (k1_heyting3 k5_numbers (k6_domain_1 k5_numbers X0)))) \Rightarrow (\forall X2. (m1_subset_1 X2 (k5_finsub_1 (k4_partfun1 k5_numbers (k6_domain_1 k5_numbers X0)))) \Rightarrow ((X1 = X2) \Rightarrow ((X1 = k1_tarski k1_xboole_0) \vee ((\neg v1_xboole_0 (k1_heyting2 k5_numbers (k6_domain_1 k5_numbers X0) X2)) \wedge ((v1_finset_1 (k1_heyting2 k5_numbers (k6_domain_1 k5_numbers X0) X2)) \wedge (m1_subset_1 (k1_heyting2 k5_numbers (k6_domain_1 k5_numbers X0) X2) (k1_zfmisc_1 k5_numbers)))))))))) \end{aligned}$$