

t22_heyting3 (TMPtwcRG- JagM7W6DqXQgrd2guBRE9cfYiVS)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k3_heyting3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_heyting3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_heyting3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k5_finsub_1 : \iota \Rightarrow \iota$ be given. Let $k4_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k5_numbers) \Rightarrow (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow (\neg r1_tarski \\ & (k2_heyting3 X0 X1) (k3_heyting3 X2 X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k5_numbers) \Rightarrow (r2_xboole_0 (k3_heyting3 X0 X1) (k3_heyting3 \\ & (k2_nat_1 X0 np_1) X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. r1_tarski X0 X0 \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (5)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\neg r2_xboole_0 X0 X0 \quad (7)$$

Assume the following.

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

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (9)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.((m1_subset_1 X0 k5_numbers)\wedge(m1_subset_1 \\ &X1 k5_numbers))\Rightarrow(m1_subset_1 (k4_heyting3 X0 X1) (k5_finsub_1 \\ &(k4_partfun1 k5_numbers (k6_domain_1 k5_numbers X1)))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.((m1_subset_1 X0 k5_numbers)\wedge(v7_ordinal1 \\ &X1))\Rightarrow(m2_subset_1 (k2_nat_1 X0 X1) k1_numbers k5_numbers) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} &\forall X0.(m1_subset_1 X0 k5_numbers)\Rightarrow(\forall X1.(m1_subset_1 \\ &X1 k5_numbers)\Rightarrow(\forall X2.(m1_subset_1 X2 (k5_finsub_1 (k4_partfun1 \\ &k5_numbers (k6_domain_1 k5_numbers X1))))\Rightarrow((X2 = k4_heyting3 \\ &X0 X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow(\neg(\forall X4.((\neg v1_xboole_0 X4)\wedge \\ &(m1_subset_1 X4 k5_numbers))\Rightarrow(\neg(r1_xxreal_0 X4 X0)\wedge(X3 = k2_heyting3 \\ &X4 X1))))\wedge(X3\neq k3_heyting3 X0 X1)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (13)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v1_xboole_0 X1)) \quad (14)$$

Theorem 1

$$\begin{aligned} &\forall X0.(m1_subset_1 X0 k5_numbers)\Rightarrow(\forall X1.(m1_subset_1 \\ &X1 k5_numbers)\Rightarrow(\neg k3_heyting3 X0 X1 \in k4_heyting3 (k2_nat_1 X0 np_1) \\ &X1)) \end{aligned}$$