

l34_heyting3

(TMQ4gKSbzzrWvRLLg8TSa2pY8iSKgEE3CeD)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k4_heyting3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $k3_heyting3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_heyting3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_finsub_1 : \iota \Rightarrow \iota$ be given. Let $k4_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 k5_numbers) \wedge (m1_subset_1 X1 k5_numbers)) \Rightarrow (v1_finset_1 (k3_heyting3 X0 X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 k5_numbers) \wedge (m1_subset_1 X1 k5_numbers)) \Rightarrow (v1_finset_1 (k2_heyting3 X0 X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 k5_numbers) \wedge (m1_subset_1 X1 k5_numbers)) \Rightarrow (m1_subset_1 (k4_heyting3 X0 X1) (k5_finsub_1 (k4_partfun1 k5_numbers (k6_domain_1 k5_numbers X1)))) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. (m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1. (m1_subset_1 X1 k5_numbers) \Rightarrow (\forall X2. (m1_subset_1 X2 (k5_finsub_1 (k4_partfun1 k5_numbers (k6_domain_1 k5_numbers X1)))) \Rightarrow ((X2 = k4_heyting3 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow (\neg(\forall X4. ((\neg v1_xboole_0 X4) \wedge (m1_subset_1 X4 k5_numbers)) \Rightarrow (\neg(r1_xxreal_0 X4 X0) \wedge (X3 = k2_heyting3 X4 X1)))) \wedge (X3 \neq k3_heyting3 X0 X1)))))) \end{aligned} \quad (4)$$

Theorem 1

$$\forall X0. (m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1. (m1_subset_1 X1 k5_numbers) \Rightarrow (\forall X2. (X2 \in k4_heyting3 X0 X1) \Rightarrow (v1_finset_1 X2)))$$