

t9_hilbert2

(TMaXNdFN8S3nL3sCFs59YeWT8zAtn1AfowP)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_hilbert1 : \iota$ be given. Let $v1_hilbert2 : \iota \Rightarrow o$ be given. Let $v2_hilbert2 : \iota \Rightarrow o$ be given. Let $v3_hilbert2 : \iota \Rightarrow o$ be given. Let $k2_hilbert1 : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k1_hilbert2 : \iota \Rightarrow \iota$ be given. Let $k4_hilbert1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_hilbert1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0 : \iota \Rightarrow o. ((X0 \ k2_hilbert1) \wedge ((\forall X1. (m1_subset_1 \\ & X1 \ k5_numbers) \Rightarrow (X0 \ (k1_hilbert2 \ X1))) \wedge (\forall X1. (m1_subset_1 \\ & X1 \ k1_hilbert1) \Rightarrow (\forall X2. (m1_subset_1 \ X2 \ k1_hilbert1) \Rightarrow ((\\ & (X0 \ X1) \wedge (X0 \ X2)) \Rightarrow ((X0 \ (k4_hilbert1 \ X1 \ X2)) \wedge (X0 \ (k3_hilbert1 \ X1 \\ & X2)))))) \Rightarrow (\forall X1. (m1_subset_1 \ X1 \ k1_hilbert1) \Rightarrow (X0 \ X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 \ X0 \ k1_hilbert1) \wedge (m1_subset_1 \ X1 \ k1_hilbert1)) \Rightarrow (m1_subset_1 \ (k4_hilbert1 \ X0 \ X1) \ k1_hilbert1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 \ X0 \ k1_hilbert1) \wedge (m1_subset_1 \ X1 \ k1_hilbert1)) \Rightarrow (m1_subset_1 \ (k3_hilbert1 \ X0 \ X1) \ k1_hilbert1) \quad (3)$$

Assume the following.

$$\forall X0. (m1_subset_1 \ X0 \ k5_numbers) \Rightarrow (m1_subset_1 \ (k1_hilbert2 \ X0) \ k1_hilbert1) \quad (4)$$

Assume the following.

$$\forall X0. (m1_subset_1 \ X0 \ k1_hilbert1) \Rightarrow ((v3_hilbert2 \ X0) \Leftrightarrow (\exists X1. (m1_subset_1 \ X1 \ k5_numbers) \wedge (X0 = k1_hilbert2 \ X1))) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1_subset_1 \ X0 \ k1_hilbert1) \Rightarrow ((v2_hilbert2 \ X0) \Leftrightarrow (\\ & \exists X1. (m1_subset_1 \ X1 \ k1_hilbert1) \wedge (\exists X2. (m1_subset_1 \\ & X2 \ k1_hilbert1) \wedge (X0 = k3_hilbert1 \ X1 \ X2)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_hilbert1) \Rightarrow ((v1_hilbert2 X0) \Leftrightarrow (\exists X1.(m1_subset_1 X1 k1_hilbert1) \wedge (\exists X2.(m1_subset_1 X2 k1_hilbert1) \wedge (X0 = k4_hilbert1 X1 X2)))) \quad (7)$$

Theorem 1

$$\forall X0.(m1_subset_1 X0 k1_hilbert1) \Rightarrow (\neg(\neg v1_hilbert2 X0) \wedge ((\neg v2_hilbert2 X0) \wedge ((\neg v3_hilbert2 X0) \wedge (X0 \neq k2_hilbert1))))$$