

t22_hilbert3 (TMXn-
RVCBAaHg1s3KXwYBFyZf6EU4qAdZ8uu)

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Let $k1_xboole_0 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_pralg_2 : \iota \Rightarrow \iota$ be given. Let $k2_funct_6 : \iota \Rightarrow \iota$ be given. Let $k7_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_card_3 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funcop_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (\neg(X2 = k1_xboole_0) \wedge ((X1 \neq k1_xboole_0) \wedge \\ & (X0 \neq k1_xboole_0))) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge ((v1_funct_2 \\ & X3 X0 (k1_funct_2 X1 X2)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 (k1_funct_2 X1 X2)))))) \Rightarrow (k2_funct_6 X3 = k7_funcop_1 X0 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. k1_funct_2 X0 X1 = k4_card_3 (k7_funcop_1 X0 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. v1_relat_1 (k2_zfmisc_1 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. v4_funct_1 (k1_funct_2 X0 X1) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_funcop_1 X0))) \Rightarrow \\ ((v1_relat_1 (k2_pralg_2 X0)) \wedge ((v4_relat_1 (k2_pralg_2 X0) (\\ k4_card_3 (k2_funct_6 X0))) \wedge ((v1_funct_1 (k2_pralg_2 X0)) \wedge (\\ (v1_partfun1 (k2_pralg_2 X0) (k4_card_3 (k2_funct_6 X0))) \wedge (v1_funcop_1 \\ (k2_pralg_2 X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (\\ (v1_partfun1 X1 X0) \Leftrightarrow (k1_relset_1 X0 X1 = X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0. (v1_relat_1 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 \\ X0)) \Rightarrow (v1_relat_1 X1)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0. (v4_funct_1 X0) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge ((v5_relat_1 \\ X1 X0) \wedge (v1_funct_1 X1))) \Rightarrow ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge \\ (v1_funcop_1 X1)))) \end{aligned} \quad (10)$$

Theorem 1

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (\neg (X2 = k1_xboole_0) \wedge ((X1 \neq k1_xboole_0) \wedge \\ (X0 \neq k1_xboole_0))) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge ((v1_funct_2 \\ X3 X0 (k1_funct_2 X1 X2)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 (k1_funct_2 X1 X2)))))) \Rightarrow (k9_xtuple_0 (k2_pralg_2 X3) = k1_funct_2 \\ X0 X1)) \end{aligned}$$