

t29_hilbert3 (TM-
FUMWi21BTLyzQwDp1V3JQw7eJMwc22Dvf)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v2_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_hilbert3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_hilbert1 : \iota$ be given. Let $np_1 : \iota$ be given. Let $k2_hilbert3 : \iota \Rightarrow \iota$ be given. Let $k1_hilbert1 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k1_hilbert2 : \iota \Rightarrow \iota$ be given. Let $k4_hilbert1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_hilbert1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v2_relat_1 X0) \wedge ((v4_relat_1 X0 \\ & k5_numbers) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 X0 k5_numbers)))) \Rightarrow \\ & ((v1_relat_1 (k2_hilbert3 X0)) \wedge ((v4_relat_1 (k2_hilbert3 X0) \\ & k1_hilbert1) \wedge ((v1_funct_1 (k2_hilbert3 X0)) \wedge (v1_partfun1 (\\ & k2_hilbert3 X0) k1_hilbert1)))) \end{aligned} \quad (1)$$

Assume the following.

$$m1_subset_1 k2_hilbert1 k1_hilbert1 \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v2_relat_1 X0) \wedge ((v4_relat_1 X0 \\ & k5_numbers) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 X0 k5_numbers)))) \Rightarrow \\ & (\forall X1. (m1_subset_1 X1 k1_hilbert1) \Rightarrow (k3_hilbert3 X0 X1 = \\ & k1_funct_1 (k2_hilbert3 X0) X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge ((v2_relat_1 X0) \wedge ((v4_relat_1 X0 \\
& k5_numbers) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 X0 k5_numbers)))))) \Rightarrow \\
& (\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k1_hilbert1) \wedge (\\
& (v1_funct_1 X1) \wedge (v1_partfun1 X1 k1_hilbert1)))))) \Rightarrow ((X1 = k2_hilbert3 \\
& X0) \Leftrightarrow ((k1_funct_1 X1 k2_hilbert1 = np_1) \wedge ((\forall X2.(m2_subset_1 \\
& X2 k1_numbers k5_numbers) \Rightarrow (k1_funct_1 X1 (k1_hilbert2 X2) = k1_funct_1 \\
& X0 X2)) \wedge (\forall X2.(m1_subset_1 X2 k1_hilbert1) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 k1_hilbert1) \Rightarrow ((k1_funct_1 X1 (k4_hilbert1 X2 \\
& X3) = k2_zfmisc_1 (k1_funct_1 X1 X2) (k1_funct_1 X1 X3)) \wedge (k1_funct_1 \\
& X1 (k3_hilbert1 X2 X3) = k1_funct_2 (k1_funct_1 X1 X2) (k1_funct_1 \\
& X1 X3))))))))))
\end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge ((v2_relat_1 X0) \wedge ((v4_relat_1 X0 \\
& k5_numbers) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 X0 k5_numbers)))))) \Rightarrow \\
& (k3_hilbert3 X0 k2_hilbert1 = np_1)
\end{aligned}$$