t31_hilbert3 (TMN458d3EkmizQjCFVyLKPtzecULW76scT7)

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Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_hilbert1 : \iota$ be given. 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 $k4\_hilbert1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_hilbert3 : \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_hilbert1 : \iota$ be given. Let $np\_\_1 : \iota$ 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 $k3\_hilbert1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1\ X0\ k1\_hilbert1) \wedge (m1\_subset\_1\ X1\ k1\_hilbert1)) \Rightarrow (m1\_subset\_1\ (k4\_hilbert1\ X0\ X1)\ k1\_hilbert1) \tag{1}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge ((v2\_relat\_1\ X0) \wedge ((v4\_relat\_1\ X0\ k5\_numbers) \wedge ((v1\_funct\_1\ X0) \wedge (v1\_partfun1\ X0\ k5\_numbers))))) \Rightarrow ((v1\_relat\_1\ (k2\_hilbert3\ X0)) \wedge ((v4\_relat\_1\ (k2\_hilbert3\ X0)\ k1\_hilbert1) \wedge ((v1\_funct\_1\ (k2\_hilbert3\ X0)) \wedge (v1\_partfun1\ (k2\_hilbert3\ X0)\ k1\_hilbert1)))) \tag{2}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge ((v2\_relat\_1\ X0) \wedge ((v4\_relat\_1\ X0\ k5\_numbers) \wedge ((v1\_funct\_1\ X0) \wedge (v1\_partfun1\ X0\ k5\_numbers))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ k1\_hilbert1) \Rightarrow (k3\_hilbert3\ X0\ X1 = k1\_funct\_1\ (k2\_hilbert3\ X0)\ X1)) \tag{3}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v2\_relat\_1\ X0)\wedge((v4\_relat\_1\ X0\ k5\_numbers)\wedge((v1\_funct\_1\ X0)\wedge(v1\_partfun1\ X0\ k5\_numbers)))))\Rightarrow(\forall X1.((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ k1\_hilbert1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_partfun1\ X1\ k1\_hilbert1))))\Rightarrow((X1 = k2\_hilbert3\ X0)\Leftrightarrow((k1\_funct\_1\ X1\ k2\_hilbert1 = np\_\_1)\wedge((\forall X2.(m2\_subset\_1\ X2\ k1\_numbers\ k5\_numbers)\Rightarrow(k1\_funct\_1\ X1\ (k1\_hilbert2\ X2) = k1\_funct\_1\ X0\ X2))\wedge(\forall X2.(m1\_subset\_1\ X2\ k1\_hilbert1)\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ k1\_hilbert1)\Rightarrow((k1\_funct\_1\ X1\ (k4\_hilbert1\ X2\ X3) = k2\_zfmisc\_1\ (k1\_funct\_1\ X1\ X2)\ (k1\_funct\_1\ X1\ X3))\wedge(k1\_funct\_1\ X1\ (k3\_hilbert1\ X2\ X3) = k1\_funct\_2\ (k1\_funct\_1\ X1\ X2)\ (k1\_funct\_1\ X1\ X3)))))))))) \tag{4}$$

Theorem 1

$$\forall X0.(m1\_subset\_1\ X0\ k1\_hilbert1)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ k1\_hilbert1)\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge((v2\_relat\_1\ X2)\wedge((v4\_relat\_1\ X2\ k5\_numbers)\wedge((v1\_funct\_1\ X2)\wedge(v1\_partfun1\ X2\ k5\_numbers)))))\Rightarrow(k3\_hilbert3\ X2\ (k4\_hilbert1\ X0\ X1) = k2\_zfmisc\_1\ (k3\_hilbert3\ X2\ X0)\ (k3\_hilbert3\ X2\ X1))))$$