t33_hilbert3 (TMT4Jp6Y4xFxiZ26oivhNNpENUy41dQtnJt)

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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 $m1\_hilbert3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_hilbert3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_hilbert1 : \iota$ be given. Let $k5\_hilbert3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_partfun1 : \iota \Rightarrow \iota$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k4\_relat\_1 : \iota \Rightarrow \iota$ be given. Let $m2\_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_hilbert3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_hilbert1 : \iota$ be given. Let $k2\_hilbert3 : \iota \Rightarrow \iota$ be given. Let $k1\_msualg\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_hilbert1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16\_funct\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_hilbert1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_hilbert3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1\ X2)\wedge ((v1\_funct\_2\ X2\ X0\ X1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))\wedge((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ X0\ X1)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))))\Rightarrow((r2\_funct\_2\ X0\ X1\ X2\ X3)\Leftrightarrow(X2 = X3)) \tag{1}$$

Assume the following.

$$\forall X0.k6\_partfun1\ X0 = k4\_relat\_1\ X0 \tag{2}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ (k4\_relat\_1\ X0))\wedge(v1\_funct\_1\ (k4\_relat\_1\ X0)) \tag{3}$$

Assume the following.

$$\forall X0.(v1\_partfun1\ (k6\_partfun1\ X0)\ X0)\wedge(m1\_subset\_1\ (k6\_partfun1\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1\ X0)\wedge((v2\_relat\_1\ X0)\wedge((v4\_relat\_1\ X0\ k5\_numbers)\wedge((v1\_funct\_1\ X0)\wedge(v1\_partfun1\ X0\ k5\_numbers)))))\wedge(m1\_hilbert3\ X1\ X0))\Rightarrow(m2\_pboole\ (k4\_hilbert3\ X0\ X1)\ k1\_hilbert1\ (k2\_hilbert3\ X0)\ (k2\_hilbert3\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v2\_relat\_1\ X0)\wedge((v4\_relat\_1\ X0\ k5\_numbers)\wedge((v1\_funct\_1\ X0)\wedge(v1\_partfun1\ X0\ k5\_numbers)))))\Rightarrow((v1\_relat\_1\ (k2\_hilbert3\ X0))\wedge((v4\_relat\_1\ (k2\_hilbert3\ X0)\ k1\_hilbert1)\wedge((v1\_funct\_1\ (k2\_hilbert3\ X0))\wedge(v1\_partfun1\ (k2\_hilbert3\ X0)\ k1\_hilbert1)))) \tag{6}$$

Assume the following.

$$m1\_subset\_1\ k2\_hilbert1\ k1\_hilbert1 \tag{7}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v2\_relat\_1\ X0)\wedge((v4\_relat\_1\ X0\ k5\_numbers)\wedge((v1\_funct\_1\ X0)\wedge(v1\_partfun1\ X0\ k5\_numbers)))))\Rightarrow(\forall X1.(m1\_hilbert3\ X1\ X0)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ k1\_hilbert1)\Rightarrow(k5\_hilbert3\ X0\ X1\ X2 = k1\_msualg\_3\ k1\_hilbert1\ (k2\_hilbert3\ X0)\ (k2\_hilbert3\ X0)\ (k4\_hilbert3\ X0\ X1)\ X2))) \tag{8}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v2\_relat\_1\ X0)\wedge((v4\_relat\_1\ X0\ k5\_numbers)\wedge((v1\_funct\_1\ X0)\wedge(v1\_partfun1\ X0\ k5\_numbers)))))\Rightarrow(\forall X1.(m1\_hilbert3\ X1\ X0)\Rightarrow(\forall X2.(m2\_pboole\ X2\ k1\_hilbert1\ (k2\_hilbert3\ X0)\ (k2\_hilbert3\ X0))\Rightarrow((X2 = k4\_hilbert3\ X0\ X1)\Leftrightarrow(k1\_msualg\_3\ k1\_hilbert1\ (k2\_hilbert3\ X0)\ (k2\_hilbert3\ X0)\ X2\ k2\_hilbert1 = k6\_partfun1\ np\_\_1)\wedge((\forall X3.(m2\_subset\_1\ X3\ k1\_numbers\ k5\_numbers)\Rightarrow(k1\_msualg\_3\ k1\_hilbert1\ (k2\_hilbert3\ X0)\ (k2\_hilbert3\ X0)\ X2\ (k1\_hilbert2\ X3) = k1\_funct\_1\ X1\ X3))\wedge(\forall X3.(m1\_subset\_1\ X3\ k1\_hilbert1)\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ k1\_hilbert1)\Rightarrow(\exists X5.((v1\_funct\_1\ X5)\wedge((v1\_funct\_2\ X5\ (k3\_hilbert3\ X0\ X3)\ (k3\_hilbert3\ X0\ X3))\wedge((v3\_funct\_2\ X5\ (k3\_hilbert3\ X0\ X3)\ (k3\_hilbert3\ X0\ X3))\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k3\_hilbert3\ X0\ X3)\ (k3\_hilbert3\ X0\ X3)))))))\wedge(\exists X6.((v1\_funct\_1\ X6)\wedge((v1\_funct\_2\ X6\ (k3\_hilbert3\ X0\ X4)\ (k3\_hilbert3\ X0\ X4))\wedge((v3\_funct\_2\ X6\ (k3\_hilbert3\ X0\ X4)\ (k3\_hilbert3\ X0\ X4))\wedge(m1\_subset\_1\ X6\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k3\_hilbert3\ X0\ X4)\ (k3\_hilbert3\ X0\ X4)))))))\wedge((X5 = k1\_msualg\_3\ k1\_hilbert1\ (k2\_hilbert3\ X0)\ (k2\_hilbert3\ X0)\ X2\ X3)\wedge((X6 = k1\_msualg\_3\ k1\_hilbert1\ (k2\_hilbert3\ X0)\ (k2\_hilbert3\ X0)\ X2\ X4)\wedge((k1\_msualg\_3\ k1\_hilbert1\ (k2\_hilbert3\ X0)\ (k2\_hilbert3\ X0)\ X2\ (k4\_hilbert1\ X3\ X4) = k16\_funct\_3\ (k3\_hilbert3\ X0\ X3)\ (k3\_hilbert3\ X0\ X4)\ (k3\_hilbert3\ X0\ X3)\ (k3\_hilbert3\ X0\ X4)\ X5\ X6)\wedge(k1\_msualg\_3\ k1\_hilbert1\ (k2\_hilbert3\ X0)\ (k2\_hilbert3\ X0)\ X2\ (k3\_hilbert1\ X3\ X4) = k1\_hilbert3\ (k3\_hilbert3\ X0\ X3)\ (k3\_hilbert3\ X0\ X4)\ X5\ X6)))))))))))))) \tag{9}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v2\_relat\_1\ X0)\wedge((v4\_relat\_1\ X0\ k5\_numbers)\wedge((v1\_funct\_1\ X0)\wedge(v1\_partfun1\ X0\ k5\_numbers)))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ k1\_hilbert1)\Rightarrow(k3\_hilbert3\ X0\ X1 = k1\_funct\_1\ (k2\_hilbert3\ X0)\ X1)) \tag{10}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v2\_relat\_1\ X0)\wedge((v4\_relat\_1\ X0\ k5\_numbers)\wedge((v1\_funct\_1\ X0)\wedge(v1\_partfun1\ X0\ k5\_numbers)))))\Rightarrow(\forall X1.((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ k1\_hilbert1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_partfun1\ X1\ k1\_hilbert1))))\Rightarrow((X1 = k2\_hilbert3\ X0)\Leftrightarrow((k1\_funct\_1\ X1\ k2\_hilbert1 = np\_\_1)\wedge((\forall X2.(m2\_subset\_1\ X2\ k1\_numbers\ k5\_numbers)\Rightarrow(k1\_funct\_1\ X1\ (k1\_hilbert2\ X2) = k1\_funct\_1\ X0\ X2))\wedge(\forall X2.(m1\_subset\_1\ X2\ k1\_hilbert1)\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ k1\_hilbert1)\Rightarrow((k1\_funct\_1\ X1\ (k4\_hilbert1\ X2\ X3) = k2\_zfmisc\_1\ (k1\_funct\_1\ X1\ X2)\ (k1\_funct\_1\ X1\ X3))\wedge(k1\_funct\_1\ X1\ (k3\_hilbert1\ X2\ X3) = k1\_funct\_2\ (k1\_funct\_1\ X1\ X2)\ (k1\_funct\_1\ X1\ X3)))))))))) \tag{11}$$

Theorem 1

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v2\_relat\_1\ X0)\wedge((v4\_relat\_1\ X0\ k5\_numbers)\wedge((v1\_funct\_1\ X0)\wedge(v1\_partfun1\ X0\ k5\_numbers)))))\Rightarrow(\forall X1.(m1\_hilbert3\ X1\ X0)\Rightarrow(r2\_funct\_2\ (k3\_hilbert3\ X0\ k2\_hilbert1)\ (k3\_hilbert3\ X0\ k2\_hilbert1)\ (k5\_hilbert3\ X0\ X1\ k2\_hilbert1)\ (k6\_partfun1\ (k3\_hilbert3\ X0\ k2\_hilbert1))))$$