t100_funct_4 (TMaMvmhYssm7LK4Sv78uwdPDg6ipxHsWmGJ)

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Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $k10\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k6\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k16\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow (\forall X1.\forall X2.\ k9\_xtuple\_0\ (k6\_funct\_4\ X0\ X1\ X2) = k9\_xtuple\_0\ X0) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X0 \in k9\_xtuple\_0\ (k16\_funcop\_1\ X1\ X2)) \Rightarrow (X0 = X1) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.X0 \in k9\_xtuple\_0\ (k16\_funcop\_1\ X0\ X1) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.k1\_funct\_1\ (k16\_funcop\_1\ X0\ X1)\ X0 = X1 \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1)) \Rightarrow (\forall X2.\ ((v1\_relat\_1\ X2) \wedge (v1\_funct\_1\ X2)) \Rightarrow ((X0 \in k9\_xtuple\_0\ X1) \Rightarrow (k1\_funct\_1\ (k1\_funct\_4\ X2\ X1)\ X0 = k1\_funct\_1\ X1\ X0))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1)) \Rightarrow (\forall X2.\ ((v1\_relat\_1\ X2) \wedge (v1\_funct\_1\ X2)) \Rightarrow ((X0 \in k9\_xtuple\_0\ X1) \Rightarrow (k1\_funct\_1\ (k3\_relat\_1\ X1\ X2)\ X0 = k1\_funct\_1\ X2\ (k1\_funct\_1\ X1\ X0)))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge(v1\_funct\_1\ X1))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge(v1\_funct\_1\ X2))\Rightarrow((\neg X0\in k9\_xtuple\_0\ X1)\Rightarrow(k1\_funct\_1\ (k1\_funct\_4\ X2\ X1)\ X0 = k1\_funct\_1\ X2\ X0))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge(v1\_funct\_1\ X1))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge(v1\_funct\_1\ X2))\Rightarrow((X0\in k9\_xtuple\_0\ (k3\_relat\_1\ X2\ X1))\Leftrightarrow((X0\in k9\_xtuple\_0\ X2)\wedge(k1\_funct\_1\ X2\ X0\in k9\_xtuple\_0\ X1)))) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow((v1\_relat\_1\ (k6\_funct\_4\ X0\ X1\ X2))\wedge(v1\_funct\_1\ (k6\_funct\_4\ X0\ X1\ X2))) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\wedge((v1\_relat\_1\ X1)\wedge(v1\_funct\_1\ X1)))\Rightarrow((v1\_relat\_1\ (k3\_relat\_1\ X0\ X1))\wedge(v1\_funct\_1\ (k3\_relat\_1\ X0\ X1))) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1\ (k16\_funcop\_1\ X0\ X1))\wedge(v1\_funct\_1\ (k16\_funcop\_1\ X0\ X1)) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.v1\_relat\_1\ (k3\_relat\_1\ X0\ X1) \tag{12}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow(\forall X1.\forall X2.k6\_funct\_4\ X0\ X1\ X2 = k1\_funct\_4\ X0\ (k3\_relat\_1\ X0\ (k16\_funcop\_1\ X1\ X2))) \tag{13}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow(\forall X1.(X1 = k10\_xtuple\_0\ X0)\Leftrightarrow(\forall X2.(X2\in X1)\Leftrightarrow(\exists X3.(X3\in k9\_xtuple\_0\ X0)\wedge(X2 = k1\_funct\_1\ X0\ X3)))) \tag{14}$$

Theorem 1

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow(\forall X1.\forall X2.\neg(X1\neq X2)\wedge(X1\in k10\_xtuple\_0\ (k6\_funct\_4\ X0\ X1\ X2)))$$