

t24\_mssubfam  
(TMYjKSs6BYoP kzKaR J3QF9aRxEXnMpd2QfA)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funcop\_1 : \iota \Rightarrow o$  be given. Let  $v2\_finset\_1 : \iota \Rightarrow o$  be given. Let  $k2\_funct\_6 : \iota \Rightarrow \iota$  be given. Let  $k3\_funct\_6 : \iota \Rightarrow \iota$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v1\_finset\_1 (k9\_xtuple\_0 X0)) \Rightarrow (v1\_finset\_1 (k10\_xtuple\_0 X0))) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 X2 X1) \wedge ((v1\_funct\_1 X2) \wedge ((v1\_partfun1 X2 X1) \wedge (v1\_funcop\_1 X2)))))) \Rightarrow \\ & (\forall X3. ((v1\_relat\_1 X3) \wedge (v1\_funct\_1 X3)) \Rightarrow (((X0 \in X1) \wedge (X3 = k1\_funct\_1 X2 X0)) \Rightarrow (k1\_funct\_1 (k2\_funct\_6 X2) X0 = k9\_xtuple\_0 X3))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 X2 X1) \wedge ((v1\_funct\_1 X2) \wedge ((v1\_partfun1 X2 X1) \wedge (v1\_funcop\_1 X2)))))) \Rightarrow \\ & (\forall X3. ((v1\_relat\_1 X3) \wedge (v1\_funct\_1 X3)) \Rightarrow (((X0 \in X1) \wedge (X3 = k1\_funct\_1 X2 X0)) \Rightarrow (k1\_funct\_1 (k3\_funct\_6 X2) X0 = k10\_xtuple\_0 X3))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_funcop\_1 X0))) \Rightarrow ((v1\_relat\_1 (k1\_funct\_1 X0 X1)) \wedge (v1\_funct\_1 (k1\_funct\_1 X0 X1))) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1\_relat\_1 X1)\wedge((v4\_relat\_1 X1 X0)\wedge \\ (v1\_funct\_1 X1)\wedge((v1\_partfun1 X1 X0)\wedge(v1\_funcop\_1 X1))))\Rightarrow( \\ (v1\_relat\_1 (k3\_funct\_6 X1))\wedge((v4\_relat\_1 (k3\_funct\_6 X1) X0)\wedge \\ (v1\_funct\_1 (k3\_funct\_6 X1)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1\_relat\_1 X1)\wedge((v4\_relat\_1 X1 X0)\wedge \\ (v1\_funct\_1 X1)\wedge((v1\_partfun1 X1 X0)\wedge(v1\_funcop\_1 X1))))\Rightarrow( \\ (v1\_relat\_1 (k2\_funct\_6 X1))\wedge((v4\_relat\_1 (k2\_funct\_6 X1) X0)\wedge \\ (v1\_funct\_1 (k2\_funct\_6 X1)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1\_relat\_1 X1)\wedge((v4\_relat\_1 X1 X0)\wedge \\ v1\_funct\_1 X1))\Rightarrow((v2\_finset\_1 X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow(v1\_finset\_1 \\ (k1\_funct\_1 X1 X2)))) \end{aligned} \quad (7)$$

**Theorem 1**

$$\begin{aligned} \forall X0.\forall X1.((v1\_relat\_1 X1)\wedge((v4\_relat\_1 X1 X0)\wedge \\ (v1\_funct\_1 X1)\wedge((v1\_partfun1 X1 X0)\wedge(v1\_funcop\_1 X1))))\Rightarrow( \\ (v2\_finset\_1 (k2\_funct\_6 X1))\Rightarrow(v2\_finset\_1 (k3\_funct\_6 X1))) \end{aligned}$$