

t13_mssubfam
(TMdr76zKNjCRj9BmVqa1s2A9YiUHxSSosjm)

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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 $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_6 : \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_funct_6 : \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow (((X0 \in k9_xtuple_0 X1) \wedge (X2 = \\ & k1_funct_1 X1 X0)) \Rightarrow ((X0 \in k9_xtuple_0 (k2_funct_6 X1)) \wedge ((k1_funct_1 \\ & (k2_funct_6 X1) X0 = k9_xtuple_0 X2) \wedge ((X0 \in k9_xtuple_0 (k3_funct_6 \\ & X1)) \wedge (k1_funct_1 (k3_funct_6 X1) X0 = k10_xtuple_0 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow ((v1_partfun1 X1 X0) \Leftrightarrow (k1_relset_1 X0 X1 = X0)) \quad (3)$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge ((v4_relat_1 \\ & X2 X1) \wedge ((v1_funct_1 X2) \wedge ((v1_partfun1 X2 X1) \wedge (v1_funcop_1 X2)))))) \Rightarrow \\ & (\forall X3. ((v1_relat_1 X3) \wedge (v1_funct_1 X3)) \Rightarrow (((X0 \in X1) \wedge (X3 = \\ & k1_funct_1 X2 X0)) \Rightarrow (k1_funct_1 (k3_funct_6 X2) X0 = k10_xtuple_0 \\ & X3))) \end{aligned}$$