

t26_algspec1

(TMaM9kvAtB6ontd5Eu6oMxc7koRduhZRzj3)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $m1_algspec1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_funct_1 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X0 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 X1 X0 \in k10_xtuple_0 X1)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v2_funct_1 X0) \Rightarrow \\ & (\forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X1 = k2_funct_1 X0) \Leftrightarrow ((k9_xtuple_0 X1 = k10_xtuple_0 X0) \wedge (\forall X2. \forall X3. \\ & (((X2 \in k10_xtuple_0 X0) \wedge (X3 = k1_funct_1 X1 X2)) \Rightarrow ((X3 \in k9_xtuple_0 X0) \wedge (X2 = k1_funct_1 X0 X3))) \wedge ((X3 \in k9_xtuple_0 X0) \wedge (X2 = k1_funct_1 X0 X3)) \Rightarrow ((X2 \in k10_xtuple_0 X0) \wedge (X3 = k1_funct_1 X1 X2)))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. (m1_algspec1 X1 X0) \Rightarrow (\forall X2. (X2 \in k10_xtuple_0 X0) \Rightarrow ((k1_funct_1 X1 X2 \in k9_xtuple_0 X0) \wedge (k1_funct_1 X0 (k1_funct_1 X1 X2) = X2)))) \quad (3)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. (m1_algspec1 X1 X0) \Rightarrow ((v1_relat_1 X1) \wedge (v1_funct_1 X1))) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v2_funct_1 X0) \Leftrightarrow \\ & (\forall X1. \forall X2. ((X1 \in k9_xtuple_0 X0) \wedge ((X2 \in k9_xtuple_0 X0) \wedge (k1_funct_1 X0 X1 = k1_funct_1 X0 X2))) \Rightarrow (X1 = X2))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.(X1 = k10_xtuple_0 X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.(X3 \in k9_xtuple_0 X0) \wedge (X2 = k1_funct_1 X0 X3)))) \quad (6)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((m1_algspec1 X1 X0) \Leftrightarrow ((k9_xtuple_0 X1 = k10_xtuple_0 X0) \wedge (k3_relat_1 X1 X0 = k6_partfun1 (k10_xtuple_0 X0)))))) \quad (7)$$

Theorem 1

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v2_funct_1 X0) \Rightarrow (\forall X1.(m1_algspec1 X1 X0) \Rightarrow (X1 = k2_funct_1 X0)))$$