

t35_funct_6

(TMV4jyDrrTRoNUUEoAxjBySMteAm1NfHcim)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_funct_6 : \iota \Rightarrow \iota$ be given. Let $k5_funct_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funct_5 : \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k8_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_6 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 \\ & X2)) \Rightarrow (\forall X3. ((v1_relat_1 X3) \wedge (v1_funct_1 X3)) \Rightarrow (((X0 \in k9_xtuple_0 \\ & X2) \wedge ((X3 = k1_funct_1 X2 X0) \wedge (X1 \in k9_xtuple_0 X3))) \Rightarrow ((k4_tarski \\ & X0 X1 \in k9_xtuple_0 (k2_funct_5 X2)) \wedge ((k1_binop_1 (k2_funct_5 \\ & X2) X0 X1 = k1_funct_1 X3 X1) \wedge (k1_funct_1 X3 X1 \in k10_xtuple_0 (k2_funct_5 \\ & X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow (((X0 \in k9_xtuple_0 (k6_funct_6 \\ & X1)) \wedge (X2 = k1_funct_1 (k6_funct_6 X1) X0)) \Rightarrow ((k9_xtuple_0 X2 = k8_relat_1 \\ & X1 (k1_funct_6 (k10_xtuple_0 X1))) \wedge (\forall X3. (X3 \in k9_xtuple_0 \\ & X2) \Rightarrow ((k4_tarski X3 X0 \in k9_xtuple_0 (k2_funct_5 X1)) \wedge (k1_funct_1 \\ & X2 X3 = k1_binop_1 (k2_funct_5 X1) X3 X0)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X0 \in \\ & k9_xtuple_0 (k6_funct_6 X1)) \Rightarrow ((v1_relat_1 (k1_funct_1 (k6_funct_6 \\ & X1) X0)) \wedge (v1_funct_1 (k1_funct_1 (k6_funct_6 X1) X0)))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X0 \in \\ & k8_relat_1 X1 (k1_funct_6 (k10_xtuple_0 X1))) \Leftrightarrow ((X0 \in k9_xtuple_0 \\ & X1) \wedge ((v1_relat_1 (k1_funct_1 X1 X0)) \wedge (v1_funct_1 (k1_funct_1 \\ & X1 X0)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 (k6_funct_6 X0)) \wedge (v1_funct_1 (k6_funct_6 X0))) \quad (5)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. \forall X2. k5_funct_6 X0 X1 X2 = k1_binop_1 (k2_funct_5 X0) X1 X2) \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow (((X0 \in k9_xtuple_0 X2) \wedge ((v1_relat_1 (k1_funct_1 X2 X0)) \wedge \\ & (v1_funct_1 (k1_funct_1 X2 X0))) \wedge (X1 \in k9_xtuple_0 (k6_funct_6 X2))) \Rightarrow (k5_funct_6 X2 X0 X1 = k5_funct_6 (k6_funct_6 X2) X1 X0)) \end{aligned}$$