

t34_funct_6 (TMYUnEEhTJghut- pDSti7XmhuHbSaGVqh7Kh)

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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 $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X0 \in \\ & k9_xtuple_0 (k6_funct_6 X1)) \Rightarrow (\forall X2. ((v1_relat_1 X2) \wedge (\\ & v1_funct_1 X2)) \Rightarrow ((X2 \in k10_xtuple_0 X1) \Rightarrow (X0 \in k9_xtuple_0 X2)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow (((X0 \in k9_xtuple_0 (k6_funct_6 \\ & X1)) \wedge (X2 = k1_funct_1 (k6_funct_6 X1) X0)) \Rightarrow ((k9_xtuple_0 X2 = k8_relat_1 \\ & X1 (k1_funct_6 (k10_xtuple_0 X1))) \wedge (\forall X3. (X3 \in k9_xtuple_0 \\ & X2) \Rightarrow ((k4_tarski X3 X0 \in k9_xtuple_0 (k2_funct_5 X1)) \wedge (k1_funct_1 \\ & X2 X3 = k1_binop_1 (k2_funct_5 X1) X3 X0)))))) \end{aligned} \tag{3}$$

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.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.(X1 = \\ k10_xtuple_0 X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.(X3 \in k9_xtuple_0 \\ X0) \wedge (X2 = k1_funct_1 X0 X3)))) \end{aligned} \quad (5)$$

Theorem 1

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v1_relat_1 X2) \wedge (v1_funct_1 \\ X2)) \Rightarrow (\forall X3.((v1_relat_1 X3) \wedge (v1_funct_1 X3)) \Rightarrow (\forall X4. \\ ((v1_relat_1 X4) \wedge (v1_funct_1 X4)) \Rightarrow (((X0 \in k9_xtuple_0 X2) \wedge (\\ X3 = k1_funct_1 X2 X0) \wedge ((X1 \in k9_xtuple_0 (k6_funct_6 X2)) \wedge (X4 = \\ k1_funct_1 (k6_funct_6 X2) X1)))) \Rightarrow (k1_funct_1 X3 X1 = k1_funct_1 \\ X4 X0)))) \end{aligned}$$