t7_funct_6 (TMaceYFnYco8DxoLnUJeHK8PNXX2m3iY9gT)

October 27, 2020

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 $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k2\_funct\_5 : \iota \Rightarrow \iota$ be given. Let $k4\_funct\_5 : \iota \Rightarrow \iota$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1\ X2) \wedge (v1\_funct\_1\ X2)) \Rightarrow (\forall X3.((v1\_relat\_1\ X3) \wedge (v1\_funct\_1\ X3)) \Rightarrow (((X0 \in k9\_xtuple\_0\ X2) \wedge ((X3 = k1\_funct\_1\ X2\ X0) \wedge (X1 \in k9\_xtuple\_0\ X3))) \Rightarrow ((k4\_tarski\ X1\ X0 \in k9\_xtuple\_0\ (k4\_funct\_5\ X2)) \wedge ((k1\_binop\_1\ (k4\_funct\_5\ X2)\ X1\ X0 = k1\_funct\_1\ X3\ X1) \wedge (k1\_funct\_1\ X3\ X1 \in k10\_xtuple\_0\ (k4\_funct\_5\ X2))))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1\ X2) \wedge (v1\_funct\_1\ X2)) \Rightarrow (\forall X3.((v1\_relat\_1\ X3) \wedge (v1\_funct\_1\ X3)) \Rightarrow (((X0 \in k9\_xtuple\_0\ X2) \wedge ((X3 = k1\_funct\_1\ X2\ X0) \wedge (X1 \in k9\_xtuple\_0\ X3))) \Rightarrow ((k4\_tarski\ X0\ X1 \in k9\_xtuple\_0\ (k2\_funct\_5\ X2)) \wedge ((k1\_binop\_1\ (k2\_funct\_5\ X2)\ X0\ X1 = k1\_funct\_1\ X3\ X1) \wedge (k1\_funct\_1\ X3\ X1 \in k10\_xtuple\_0\ (k2\_funct\_5\ X2))))))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ X0\ X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \tag{3}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow (\forall X1.(X1 = k10\_xtuple\_0\ X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.(X3 \in k9\_xtuple\_0\ X0) \wedge (X2 = k1\_funct\_1\ X0\ X3))))) \tag{4}$$

Theorem 1

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge(v1\_funct\_1\ X1))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge(v1\_funct\_1\ X2))\Rightarrow(((X0\in k9\_xtuple\_0\ X1)\wedge(X2=k1\_funct\_1\ X1\ X0))\Rightarrow((r1\_tarski\ (k10\_xtuple\_0\ X2)\ (k10\_xtuple\_0\ (k2\_funct\_5\ X1)))\wedge(r1\_tarski\ (k10\_xtuple\_0\ X2)\ (k10\_xtuple\_0\ (k4\_funct\_5\ X1))))))$$