t41_funct_4 (TMbvkAPidSTVswyoNDYDYeVM-PVNuVzzX6ki)

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Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k2\_funct\_4 : \iota \Rightarrow \iota$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow ((v1\_relat\_1\ (k2\_funct\_4\ X0)) \wedge (v1\_funct\_1\ (k2\_funct\_4\ X0))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ X0\ X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \tag{2}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow (\forall X1.(X1 = k10\_xtuple\_0\ X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.(X3 \in k9\_xtuple\_0\ X0) \wedge (X2 = k1\_funct\_1\ X0\ X3)))) \tag{3}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1)) \Rightarrow ((X1 = k2\_funct\_4\ X0) \Leftrightarrow ((\forall X2.(X2 \in k9\_xtuple\_0\ X1) \Leftrightarrow (\exists X3.\exists X4.(X2 = k4\_tarski\ X4\ X3) \wedge (k4\_tarski\ X3\ X4 \in k9\_xtuple\_0\ X0))) \wedge (\forall X2.\forall X3.(k4\_tarski\ X2\ X3 \in k9\_xtuple\_0\ X0) \Rightarrow (k1\_binop\_1\ X1\ X3\ X2 = k1\_binop\_1\ X0\ X2\ X3))))) \tag{4}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow (\forall X1.\forall X2.k1\_binop\_1\ X0\ X1\ X2 = k1\_funct\_1\ X0\ (k4\_tarski\ X1\ X2)) \tag{5}$$

Theorem 1

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow (r1\_tarski\ (k10\_xtuple\_0\ (k2\_funct\_4\ X0))\ (k10\_xtuple\_0\ X0))$$