t2_funcop_1 (TMSE8RijUPTviZevmnhUT2R7WAmncT152Ge)

October 27, 2020

Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $k13\_funct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funcop\_1 : \iota \Rightarrow \iota$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow ((v1\_relat\_1\ (k1\_funcop\_1\ X0)) \wedge (v1\_funct\_1\ (k1\_funcop\_1\ X0))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \wedge ((v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1))) \Rightarrow ((v1\_relat\_1\ (k13\_funct\_3\ X0\ X1)) \wedge (v1\_funct\_1\ (k13\_funct\_3\ X0\ X1))) \tag{2}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1)) \Rightarrow (\forall X2.((v1\_relat\_1\ X2) \wedge (v1\_funct\_1\ X2)) \Rightarrow ((X2 = k13\_funct\_3\ X0\ X1) \Leftrightarrow ((k9\_xtuple\_0\ X2 = k3\_xboole\_0\ (k9\_xtuple\_0\ X0)\ (k9\_xtuple\_0\ X1)) \wedge (\forall X3.(X3 \in k9\_xtuple\_0\ X2) \Rightarrow (k1\_funct\_1\ X2\ X3 = k4\_tarski\ (k1\_funct\_1\ X0\ X3)\ (k1\_funct\_1\ X1\ X3)))))))) \tag{3}$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0\ X0\ X1 = k3\_xboole\_0\ X1\ X0 \tag{5}$$

Theorem 1

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow(\forall X1.((v1\_relat\_1\ X1)\wedge(v1\_funct\_1\ X1))\Rightarrow(k13\_funct\_3\ X0\ X1 = k1\_funcop\_1\ (k13\_funct\_3\ X1\ X0)))$$