

t25_funct_5

(TMaQRUdEH88ERxFWznpYqMAftHTv2Ho3hmJ)

October 27, 2020

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 $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_5 : \iota \Rightarrow \iota$ be given. Let $k3_funct_5 : \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (k9_xtuple_0 (k3_funct_5 X0) = k10_xtuple_0 (k9_xtuple_0 X0)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (r1_tarski X0 (k2_zfmisc_1 X1 X2)) \Rightarrow ((r1_tarski (k9_xtuple_0 X0) X1) \wedge (r1_tarski (k10_xtuple_0 X0) X2)) \quad (2)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 (k1_funct_5 X0)) \wedge (v1_funct_1 (k1_funct_5 X0))) \quad (3)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X1 = k1_funct_5 X0) \Leftrightarrow ((k9_xtuple_0 X1 = k9_xtuple_0 (k9_xtuple_0 X0)) \wedge (\forall X2. \neg (X2 \in k9_xtuple_0 (k9_xtuple_0 X0)) \wedge (\forall X3. ((v1_relat_1 X3) \wedge (v1_funct_1 X3)) \Rightarrow (\neg (k1_funct_1 X1 X2 = X3) \wedge ((k9_xtuple_0 X3 = k10_xtuple_0 (k3_xboole_0 (k9_xtuple_0 X0) (k2_zfmisc_1 (k1_tarski X2) (k10_xtuple_0 (k9_xtuple_0 X0)))))) \wedge (\forall X4. (X4 \in k9_xtuple_0 X3) \Rightarrow (k1_funct_1 X3 X4 = k1_binop_1 X0 X2 X4)))))))))) \quad (4)$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.((v1_relat_1 X2)\wedge(v1_funct_1 X2))\Rightarrow((r1_tarski (k9_xtuple_0 X2) (k2_zfmisc_1 X0 X1))\Rightarrow((r1_tarski (k9_xtuple_0 (k1_funct_5 X2) X0)\wedge(r1_tarski (k9_xtuple_0 (k3_funct_5 X2) X1))))$$