

t2_topalg_3
(TMdxTg8sdF7sPEMdVmMnynC8ob52DvtKYM9)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funct_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (v1_relat_1 X1) \Rightarrow (r1_tarski (k9_xtuple_0 (k5_relat_1 X1 X0)) X0) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (((v2_funct_1 X1) \wedge (X0 \in k10_xtuple_0 X1)) \Rightarrow ((X0 = k1_funct_1 X1 (k1_funct_1 (k2_funct_1 X1) X0)) \wedge (X0 = k1_funct_1 (k3_relat_1 (k2_funct_1 X1) X1) X0))) \quad (2)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v2_funct_1 X0) \Rightarrow ((k10_xtuple_0 X0 = k9_xtuple_0 (k2_funct_1 X0)) \wedge (k9_xtuple_0 X0 = k10_xtuple_0 (k2_funct_1 X0)))) \quad (3)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. (r1_tarski (k10_xtuple_0 X0) X2) \Rightarrow (k3_relat_1 X0 (k5_relat_1 X1 X2) = k3_relat_1 X0 X1))) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 (k5_relat_1 X0 X1)) \wedge (v1_funct_1 (k5_relat_1 X0 X1))) \quad (5)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 (k2_funct_1 X0)) \wedge (v1_funct_1 (k2_funct_1 X0))) \quad (6)$$

Theorem 1

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. \forall X2. \\ ((v2_funct_1 (k5_relat_1 X0 X1)) \wedge (X2 \in k10_xtuple_0 (k5_relat_1 \\ X0 X1))) \Rightarrow (k1_funct_1 (k3_relat_1 (k2_funct_1 (k5_relat_1 X0 X1)) \\ X0) X2 = X2)) \end{aligned}$$