

t7_topalg_4
(TMMMhmpptsfAbyphKjphFJHUJ9Bkef6H9Pbvc)

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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 $k11_mcart_1 : \iota \Rightarrow \iota$ be given. Let $k13_funct_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. k1_xtuple_0 (k4_tarski X0 X1) = X0 \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. k3_xboole_0 X0 X0 = X0 \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \wedge ((v1_relat_1 X1) \wedge (v1_funct_1 X1))) \Rightarrow ((v1_relat_1 (k13_funct_3 X0 X1)) \wedge (v1_funct_1 (k13_funct_3 X0 X1))) \quad (3)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. (((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X2 = k13_funct_3 X0 X1) \Leftrightarrow ((k9_xtuple_0 X2 = k3_xboole_0 (k9_xtuple_0 X0) (k9_xtuple_0 X1)) \wedge (\forall X3. (X3 \in k9_xtuple_0 X2) \Rightarrow (k1_funct_1 X2 X3 = k4_tarski (k1_funct_1 X0 X3) (k1_funct_1 X1 X3)))))))))) \quad (4)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. (((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X1 = k11_mcart_1 X0) \Leftrightarrow ((k9_xtuple_0 X1 = k9_xtuple_0 X0) \wedge (\forall X2. (X2 \in k9_xtuple_0 X0) \Rightarrow (k1_funct_1 X1 X2 = k1_xtuple_0 (k1_funct_1 X0 X2)))))))) \quad (5)$$

Theorem 1

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((k9_xtuple_0 X0 = k9_xtuple_0 X1) \Rightarrow (k11_mcart_1 (k13_funct_3 X0 X1) = X0)))$$