

t6_altcat_2

(TMGu8zBAAbZCo68jYQWALi9taJpYBuDo1Ciz)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funct_4 : \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 \\ & X2)) \Rightarrow ((k4_tarski X0 X1 \in k9_xtuple_0 (k2_funct_4 X2)) \Rightarrow (k1_binop_1 \\ & (k2_funct_4 X2) X0 X1 = k1_binop_1 X2 X1 X0)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 \\ & X2)) \Rightarrow ((k4_tarski X0 X1 \in k9_xtuple_0 X2) \Leftrightarrow (k4_tarski X1 X0 \in k9_xtuple_0 \\ & (k2_funct_4 X2))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 (\\ & k2_funct_4 X0)) \wedge (v1_funct_1 (k2_funct_4 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. \forall X2. \\ & ((X1 \in k9_xtuple_0 X0) \Rightarrow ((X2 = k1_funct_1 X0 X1) \Leftrightarrow (k4_tarski X1 X2 \in \\ & X0))) \wedge ((\neg X1 \in k9_xtuple_0 X0) \Rightarrow ((X2 = k1_funct_1 X0 X1) \Leftrightarrow (X2 = k1_xboole_0)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. \forall X2. \\ & k1_binop_1 X0 X1 X2 = k1_funct_1 X0 (k4_tarski X1 X2)) \end{aligned} \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\ & (\forall X2.((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (k2_zfmisc_1 X0 \\ X1)) \wedge (v1_funct_1 X2) \wedge (v1_partfun1 X2 (k2_zfmisc_1 X0 X1)))))) \Rightarrow \\ & (\forall X3.(m1_subset_1 X3 X0) \Rightarrow (\forall X4.(m1_subset_1 X4 X1) \Rightarrow \\ & (k1_binop_1 (k2_funct_4 X2) X4 X3 = k1_binop_1 X2 X3 X4)))) \end{aligned}$$