

t46_funct_1

(TMdX2T4DgWAMXYJPdTgjteZbYxwuZQnCDQf)

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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 $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1 X0) \Rightarrow (v1_relat_1 (k5_relat_1 X0 X1)) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3_xboole_0 X0 X1) \Leftrightarrow (\forall X3.(X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \quad (3)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.\forall X2.((X1 \in k9_xtuple_0 X0) \Rightarrow ((X2 = k1_funct_1 X0 X1) \Leftrightarrow (k4_tarski X1 X2 \in X0))) \wedge ((\neg X1 \in k9_xtuple_0 X0) \Rightarrow ((X2 = k1_funct_1 X0 X1) \Leftrightarrow (X2 = k1_xboole_0)))) \quad (4)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.\forall X2.(v1_relat_1 X2) \Rightarrow ((X2 = k5_relat_1 X0 X1) \Leftrightarrow (\forall X3.\forall X4.(k4_tarski X3 X4 \in X2) \Leftrightarrow ((X3 \in X1) \wedge (k4_tarski X3 X4 \in X0))))) \quad (5)$$

Theorem 1

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow (((k9_xtuple_0 X1 = k3_xboole_0 (k9_xtuple_0 X2) X0) \wedge (\forall X3.(X3 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 X1 X3 = k1_funct_1 X2 X3))) \Rightarrow (X1 = k5_relat_1 X2 X0)))$$