

t20_funct_5
(TMMC8pEnBApyCnZa5DdJwZHyLbDemXcD4fk)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ 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 $k1_funct_5 : \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. (k4_tarski X0 X1 \in k2_zfmisc_1 (k1_tarski X2) X3) \Leftrightarrow ((X0 = X2) \wedge (X1 \in X3)) \quad (1)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 (k1_funct_5 X0)) \wedge (v1_funct_1 (k1_funct_5 X0))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. k4_tarski X0 X1 = k2_tarski (k2_tarski X0 X1) (k1_tarski X0) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (X2 = k3_xboole_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X1 = k1_funct_5 X0) \Leftrightarrow ((k9_xtuple_0 X1 = k9_xtuple_0 (k9_xtuple_0 X0)) \wedge (\forall X2. \neg (X2 \in k9_xtuple_0 (k9_xtuple_0 X0)) \wedge (\forall X3. ((v1_relat_1 X3) \wedge (v1_funct_1 X3)) \Rightarrow (\neg (k1_funct_1 X1 X2 = X3) \wedge ((k9_xtuple_0 X3 = k10_xtuple_0 (k3_xboole_0 (k9_xtuple_0 X0) (k2_zfmisc_1 (k1_tarski X2) (k10_xtuple_0 (k9_xtuple_0 X0)))))) \wedge (\forall X4. (X4 \in k9_xtuple_0 X3) \Rightarrow (k1_funct_1 X3 X4 = k1_binop_1 X0 X2 X4)))))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k10_xtuple_0 X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.k4_tarski X3 X2 \in X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k9_xtuple_0 X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.k4_tarski X2 X3 \in X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.k2_tarski X0 X1 = k2_tarski X1 X0 \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1_relat_1 X2) \wedge (v1_funct_1 \\ & X2)) \Rightarrow (\forall X3.((v1_relat_1 X3) \wedge (v1_funct_1 X3)) \Rightarrow (((k4_tarski \\ & X0 X1 \in k9_xtuple_0 X2) \wedge (X3 = k1_funct_1 (k1_funct_5 X2) X0)) \Rightarrow ((\\ & X1 \in k9_xtuple_0 X3) \wedge (k1_funct_1 X3 X1 = k1_binop_1 X2 X0 X1)))) \end{aligned}$$