

t18_closure2

(TMQNeLYrvJkZigYasNB5ujAz2niy63iyGZy)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_closure2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_closure2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k3_closure2 : \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_pboole : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X0 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 (k3_closure2 (k1_tarski X1)) X0 = k1_tarski (k1_funct_1 X1 X0))) \quad (1)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (k9_xtuple_0 (k3_closure2 (k1_tarski X0)) = k9_xtuple_0 X0) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (3)$$

Assume the following.

$$\forall X0. \neg v1_xboole_0 (k1_tarski X0) \quad (4)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge ((v1_funct_1 X1) \wedge (v1_partfun1 X1 X0)))) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k1_closure2 X0 X1)))) \Rightarrow ((v1_relat_1 (k4_closure2 X0 X1 X2)) \wedge ((v4_relat_1 (k4_closure2 X0 X1 X2) X0) \wedge ((v1_funct_1 (k4_closure2 X0 X1 X2)) \wedge (v1_partfun1 (k4_closure2 X0 X1 X2) X0)))) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge \\ & (v1_funct_1 X1) \wedge (v1_partfun1 X1 X0))) \Rightarrow (\forall X2. (m1_subset_1 \\ & X2 (k1_zfmisc_1 (k1_closure2 X0 X1))) \Rightarrow (((X2 \neq k1_xboole_0) \Rightarrow (k4_closure2 \\ & X0 X1 X2 = k3_closure2 X2)) \wedge ((X2 = k1_xboole_0) \Rightarrow (k4_closure2 X0 \\ & X1 X2 = k1_pboole X0)))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (\\ & (v1_partfun1 X1 X0) \Leftrightarrow (k1_relset_1 X0 X1 = X0)) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge ((v4_relat_1 \\ & X2 X1) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 X2 X1)))) \Rightarrow (\forall X3. (\\ & (v1_relat_1 X3) \wedge (v1_funct_1 X3)) \Rightarrow (\forall X4. (m1_subset_1 X4 \\ & (k1_zfmisc_1 (k1_closure2 X1 X2))) \Rightarrow (((X0 \in X1) \wedge (X4 = k1_tarski \\ & X3)) \Rightarrow (k1_funct_1 (k4_closure2 X1 X2 X4) X0 = k1_tarski (k1_funct_1 \\ & X3 X0)))))) \end{aligned}$$