

t93_funcnt_7 (TM-
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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funct_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_tarSKI : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k16_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. \forall X2. \\ & \forall X3.(X1 \in X3) \vee (k5_relat_1 (k2_funct_7 X0 X1 X2) X3 = k5_relat_1 \\ & \quad X0 X3)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.((\\ & \quad v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2.k5_relat_1 (k1_funct_4 \\ & \quad X0 X1) X2 = k1_funct_4 (k5_relat_1 X0 X2) (k5_relat_1 X1 X2))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1.(v1_relat_1 X1) \Rightarrow (k9_xtuple_0 (k5_relat_1 X1 X0) = k3_xboole_0 (k9_xtuple_0 X1) X0) \tag{3}$$

Assume the following.

$$\forall X0. \forall X1.k7_funcop_1 X0 X1 = k2_funcop_1 X0 X1 \tag{4}$$

Assume the following.

$$\forall X0. \forall X1.v1_relat_1 (k2_zfmisc_1 X0 X1) \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1.(v1_funct_1 (k7_funcop_1 X0 X1)) \wedge ((v1_funct_2 \\ & \quad (k7_funcop_1 X0 X1) X0 (k1_tarSKI X1)) \wedge (m1_subset_1 (k7_funcop_1 \\ & \quad X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 (k1_tarSKI X1)))))) \end{aligned} \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.k16_funcop_1 X0 X1 = k7_funcop_1 (k1_tarski X0) X1 \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3_xboole_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \quad (8)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.\forall X2. ((X1 \in k9_xtuple_0 X0) \Rightarrow (k2_funct_7 X0 X1 X2 = k1_funct_4 X0 (k16_funcop_1 X1 X2))) \wedge ((\neg X1 \in k9_xtuple_0 X0) \Rightarrow (k2_funct_7 X0 X1 X2 = X0))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.k2_funcop_1 X0 X1 = k2_zfmisc_1 X0 (k1_tarski X1) \quad (10)$$

Theorem 1

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2.\forall X3.\forall X4. (k5_relat_1 X0 X4 = k5_relat_1 X1 X4) \Rightarrow (k5_relat_1 (k2_funct_7 X0 X2 X3) X4 = k5_relat_1 (k2_funct_7 X1 X2 X3) X4)))$$