

t45_funct_6

(TMJs28asL2o28E4xDS6jpDMPYM8RPjHfn9B)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $r2_wellord2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_card_3 : \iota \Rightarrow \iota$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 X0 X0) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))))) \Rightarrow (k1_relset_1 \\ & X0 X1 = X0) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. ((\\ & v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. ((v1_relat_1 X2) \wedge \\ & (v1_funct_1 X2)) \Rightarrow (((k9_xtuple_0 X0 = k9_xtuple_0 X1) \wedge ((k9_xtuple_0 \\ & X2 = k10_xtuple_0 X1) \wedge ((v2_funct_1 X1) \wedge (\forall X3. (X3 \in k9_xtuple_0 \\ & X1) \Rightarrow (r2_wellord2 (k1_funct_1 X0 X3) (k1_funct_1 X2 (k1_funct_1 \\ & X1 X3)))))) \Rightarrow (r2_wellord2 (k4_card_3 X0) (k4_card_3 X2)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. (v1_relat_1 X0) \Rightarrow (\forall X1. (v1_relat_1 X1) \Rightarrow ((r1_tarski \\ & (k10_xtuple_0 X0) (k9_xtuple_0 X1)) \Rightarrow (k9_xtuple_0 (k3_relat_1 \\ & X0 X1) = k9_xtuple_0 X0))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1 X1)\wedge(v1_funct_1 X1))\Rightarrow(\forall X2. \\ & ((v1_relat_1 X2)\wedge(v1_funct_1 X2))\Rightarrow((X0 \in k9_xtuple_0 (k3_relat_1 \\ & X2 X1))\Rightarrow(k1_funct_1 (k3_relat_1 X2 X1) X0 = k1_funct_1 X1 (k1_funct_1 \\ & X2 X0)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(r2_wellord2 X0 X1)\Rightarrow(r2_wellord2 X1 X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.r2_wellord2 X0 X0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.r1_tarski X0 X0 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1 X1)\wedge(v5_relat_1 X1 X0))\Rightarrow(\\ & k2_relset_1 X0 X1 = k10_xtuple_0 X1) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(\\ & k1_relset_1 X0 X1 = k9_xtuple_0 X1) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1_relat_1 X0)\wedge(v1_funct_1 X0))\wedge((\\ & v1_relat_1 X1)\wedge(v1_funct_1 X1)))\Rightarrow((v1_relat_1 (k3_relat_1 X0 \\ & X1))\wedge(v1_funct_1 (k3_relat_1 X0 X1))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.v1_relat_1 (k3_relat_1 X0 X1) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1 X1)\wedge(v5_relat_1 X1 X0))\Rightarrow(\\ & (v2_funct_2 X1 X0)\Leftrightarrow(k2_relset_1 X0 X1 = X0)) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))\Rightarrow(((v1_funct_1 X2)\wedge(v3_funct_2 X2 X0 X1))\Rightarrow \\ & ((v1_funct_1 X2)\wedge((v2_funct_1 X2)\wedge(v2_funct_2 X2 X1)))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (15)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1 X1)\wedge(v1_funct_1 X1))\Rightarrow(\forall X2. \\ & ((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 X0)\wedge((v3_funct_2 X2 X0 X0)\wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))))\Rightarrow((k9_xtuple_0 \\ & X1 = X0)\Rightarrow(r2_wellord2 (k4_card_3 X1) (k4_card_3 (k3_relat_1 X2 \\ & X1)))) \end{aligned}$$