

t60_funct_2 (TMS-
BNU797LoTRvSb1okWhgf89EJV4WsHkdM)

October 27, 2020

Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Let $k2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k2_funct_1 : \iota \Rightarrow \iota$ be given. Let $v2_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow \\ & (\forall X3. ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X1 X0) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X1 X0)))))) \Rightarrow (((k2_relset_1 X1 X2 = \\ & X1) \wedge ((r2_relset_1 X0 X0 (k1_partfun1 X0 X1 X1 X0 X2 X3) (k6_partfun1 \\ & X0)) \wedge (v2_funct_1 X2))) \Rightarrow ((X0 = k1_xboole_0) \vee ((X1 = k1_xboole_0) \vee \\ & (X3 = k2_funct_1 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 \\ & X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow \\ & (\forall X3. ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X1 X0) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X1 X0)))))) \Rightarrow ((r2_relset_1 X0 X0 (k1_partfun1 \\ & X0 X1 X1 X0 X2 X3) (k6_partfun1 X0)) \Rightarrow ((v2_funct_1 X2) \wedge (v2_funct_2 \\ & X3 X0)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X2 \\ & (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((v1_funct_1 X1)\wedge((v1_funct_2 X1 X0 X0)\wedge((v3_funct_2 X1 X0 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))))\Rightarrow(k2_funct_2 X0 X1 = k2_funct_1 X1) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_funct_1 X1)\wedge((v1_funct_2 X1 X0 X0)\wedge((v3_funct_2 X1 X0 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))))\Rightarrow((v1_funct_1 (k2_funct_2 X0 X1))\wedge((v1_funct_2 (k2_funct_2 X0 X1) X0 X1) X0 X0)\wedge((v3_funct_2 (k2_funct_2 X0 X1) X0 X0)\wedge(m1_subset_1 (k2_funct_2 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v5_relat_1 X1 X0))\Rightarrow((v2_funct_2 X1 X0)\Leftrightarrow(k2_relset_1 X0 X1 = X0)) \quad (6)$$

Assume the following.

$$k1_xboole_0 = the (\lambda X0 : \iota.v1_xboole_0 X0) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(((X1 \neq k1_xboole_0)\Rightarrow((v1_funct_2 X2 X0 X1)\Leftrightarrow(X0 = k1_relset_1 X0 X2)))\wedge((X1 = k1_xboole_0)\Rightarrow((v1_funct_2 X2 X0 X1)\Leftrightarrow(X2 = k1_xboole_0)))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(((v1_funct_1 X2)\wedge(v3_funct_2 X2 X0 X1))\Rightarrow((v1_funct_1 X2)\wedge((v2_funct_1 X2)\wedge(v2_funct_2 X2 X1)))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (11)$$

Theorem 1

$$\forall X0.\forall X1.((v1_funct_1 X1)\wedge((v1_funct_2 X1 X0 X0)\wedge((v3_funct_2 X1 X0 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))))\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 X0)\wedge((v3_funct_2 X2 X0 X0)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))))\Rightarrow((r2_relset_1 X0 X0 (k1_partfun1 X0 X0 X0 X0 X1 X2) (k6_partfun1 X0))\Rightarrow(r2_relset_1 X0 X0 X2 (k2_funct_2 X0 X1))))$$