

t15_rfunct_2

(TMacBE9JQnC2Ke7nEmZfQYLU1mwqx2MRTuL)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ 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 $k1_numbers : \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k56_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k30_valued_1 : \iota \Rightarrow \iota$ be given. Let $k4_rfunct_1 : \iota \Rightarrow \iota$ be given. Let $k54_valued_1 : \iota \Rightarrow \iota$ be given. Let $k32_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 \\ & X1))) \Rightarrow ((k5_relat_1 (k30_valued_1 X1) X0 = k30_valued_1 (k5_relat_1 \\ & X1 X0)) \wedge ((k5_relat_1 (k4_rfunct_1 X1) X0 = k4_rfunct_1 (k5_relat_1 \\ & X1 X0)) \wedge (k5_relat_1 (k54_valued_1 X1) X0 = k54_valued_1 (k5_relat_1 \\ & X1 X0)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\ & m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow (\\ & \forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers X0) \wedge (\\ & m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))) \Rightarrow \\ & ((r1_tarski (k2_relset_1 X0 X2) (k1_relset_1 X0 X1)) \Rightarrow ((r2_relset_1 \\ & k5_numbers k1_numbers (k56_valued_1 k5_numbers k1_numbers (k8_funct_2 \\ & k5_numbers k1_numbers X0 X2 X1)) (k8_funct_2 k5_numbers k1_numbers \\ & X0 X2 (k56_valued_1 X0 k1_numbers X1))) \wedge (r2_relset_1 k5_numbers \\ & k1_numbers (k32_valued_1 k5_numbers k1_numbers (k8_funct_2 k5_numbers \\ & k1_numbers X0 X2 X1)) (k8_funct_2 k5_numbers k1_numbers X0 X2 (k32_valued_1 \\ & X0 k1_numbers X1)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_membered\ X1)\wedge((v1_funct_1\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))))))\Rightarrow(k56_valued_1\ X0\ X1\ X2 = k54_valued_1\ X2) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))))\Rightarrow(k2_partfun1\ X0\ X1\ X2\ X3 = k5_relat_1\ X2\ X3) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1\ X0)\wedge(v1_funct_1\ X0))\Rightarrow((v1_relat_1\ (k5_relat_1\ X0\ X1))\wedge(v1_funct_1\ (k5_relat_1\ X0\ X1))) \quad (5)$$

Assume the following.

$$v3_membered\ k1_numbers \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_membered\ X1)\wedge((v1_funct_1\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))))))\Rightarrow((v1_funct_1\ (k56_valued_1\ X0\ X1\ X2))\wedge(m1_subset_1\ (k56_valued_1\ X0\ X1\ X2)\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ k1_numbers)))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))))\Rightarrow((v1_funct_1\ (k2_partfun1\ X0\ X1\ X2\ X3))\wedge(m1_subset_1\ (k2_partfun1\ X0\ X1\ X2\ X3)\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))) \quad (8)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(v1_membered\ X0) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v1_relat_1\ X2) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(v1_membered\ X1)\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v1_valued_0\ X2)) \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. (\neg v1_xboole_0 X1) \Rightarrow (\forall X2. ((v1_funct_1 \\ & X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k1_numbers)))) \Rightarrow \\ & (\forall X3. ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 k5_numbers X1) \wedge \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X1)))))) \Rightarrow \\ & ((r1_tarski (k2_relset_1 X1 X3) (k1_relset_1 X1 (k2_partfun1 X1 \\ & k1_numbers X2 X0))) \Rightarrow (r2_relset_1 k5_numbers k1_numbers (k56_valued_1 \\ & k5_numbers k1_numbers (k8_funct_2 k5_numbers k1_numbers X1 X3 \\ & (k2_partfun1 X1 k1_numbers X2 X0))) (k8_funct_2 k5_numbers k1_numbers \\ & X1 X3 (k2_partfun1 X1 k1_numbers (k56_valued_1 X1 k1_numbers X2) \\ & X0)))))) \end{aligned}$$