

t14_rfunct_2

(TMVEEk3JAxuc2coNSVoRoFqa2HovwHT3E8B)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k26_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ 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 $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\ m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow (\\ \forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers X0) \wedge (\\ m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))) \Rightarrow \\ (\forall X3. (v1_xreal_0 X3) \Rightarrow ((r1_tarski (k2_relset_1 X0 X2) (\\ k1_relset_1 X0 X1)) \Rightarrow (r2_relset_1 k5_numbers k1_numbers (k8_funct_2 \\ k5_numbers k1_numbers X0 X2 (k26_valued_1 X0 k1_numbers X1 X3)) \\ (k26_valued_1 k5_numbers k1_numbers (k8_funct_2 k5_numbers k1_numbers \\ X0 X2 X1) X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v5_relat_1 X1 X0)) \Rightarrow (\\ k2_relset_1 X0 X1 = k10_xtuple_0 X1) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (\\ (v1_partfun1 X1 X0) \Leftrightarrow (k1_relset_1 X0 X1 = X0)) \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. (v1_relat_1 X1) \Rightarrow ((v5_relat_1 X1 X0) \Leftrightarrow (r1_tarski \\ (k10_xtuple_0 X1) X0)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (5)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xreal_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(\forall X1.(\neg v1_xboole_0 \\ & X1)\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X1 k1_numbers))))\Rightarrow(\forall X3.((v1_funct_1 X3)\wedge \\ & ((v1_funct_2 X3 k5_numbers X1)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (\\ & k2_zfmisc_1 k5_numbers X1))))\Rightarrow((v1_partfun1 X2 X1)\Rightarrow(r2_relset_1 \\ & k5_numbers k1_numbers (k8_funct_2 k5_numbers k1_numbers X1 X3 \\ & (k26_valued_1 X1 k1_numbers X2 X0)) (k26_valued_1 k5_numbers k1_numbers \\ & (k8_funct_2 k5_numbers k1_numbers X1 X3 X2) X0)))))) \end{aligned}$$