

t36_rfunct_2

(TMTqzL1VQzGvvkZp3zKSrXdbYUDq74sjQmN)

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Let $m1_subset.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ 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 $k9_subset.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole.0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_relset.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_valued.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k1_valued.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat.1 : \iota \Rightarrow o$ be given. Let $v4_relat.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple.0 : \iota \Rightarrow \iota$ be given. Let $v3_valued.0 : \iota \Rightarrow o$ be given. Let $v1_valued.0 : \iota \Rightarrow o$ be given. Let $k1_funct.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xcmplx.0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Let $v5_relat.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset.1 X2 (k1_zfmisc.1 X0)) \Rightarrow (k9_subset.1 X0 X1 X2 = k3_xboole.0 X1 X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((v3_membered X1) \wedge ((v3_membered X2) \wedge (((v1_funct.1 X3) \wedge (m1_subset.1 X3 (k1_zfmisc.1 (k2_zfmisc.1 X0 X1)))) \wedge ((v1_funct.1 X4) \wedge (m1_subset.1 X4 (k1_zfmisc.1 (k2_zfmisc.1 X0 X2))))))) \Rightarrow (k3_valued.1 X0 X1 X2 X3 X4 = k1_valued.1 X3 X4) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat.1 X1) \wedge (v4_relat.1 X1 X0)) \Rightarrow (k1_relset.1 X0 X1 = k9_xtuple.0 X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (((v1_relat.1 X0) \wedge ((v1_funct.1 X0) \wedge (v3_valued.0 X0))) \wedge ((v1_relat.1 X1) \wedge ((v1_funct.1 X1) \wedge (v3_valued.0 X1)))) \Rightarrow ((v1_relat.1 (k1_valued.1 X0 X1)) \wedge ((v1_funct.1 (k1_valued.1 X0 X1)) \wedge (v3_valued.0 (k1_valued.1 X0 X1)))) \quad (4)$$

Assume the following.

$$v3_membered k1_numbers \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v3_membered \\ & X1)\wedge((v3_membered X2)\wedge(((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))))\wedge((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X2))))))\Rightarrow((v1_funct_1 (k3_valued_1 X0 X1 X2 X3 \\ & X4)\wedge(m1_subset_1 (k3_valued_1 X0 X1 X2 X3 X4) (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 k1_numbers)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(m1_subset_1 (k1_relset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (7)$$

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.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_valued_0 X0)))\Rightarrow \\ & (\forall X1.((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_valued_0 \\ & X1))))\Rightarrow(\forall X2.((v1_relat_1 X2)\wedge(v1_funct_1 X2))\Rightarrow((X2 = k1_valued_1 \\ & X0 X1)\Leftrightarrow((k9_xtuple_0 X2 = k3_xboole_0 (k9_xtuple_0 X0) (k9_xtuple_0 \\ & X1))\wedge(\forall X3.(X3 \in k9_xtuple_0 X2)\Rightarrow(k1_funct_1 X2 X3 = k2_xcmplx_0 \\ & (k1_funct_1 X0 X3) (k1_funct_1 X1 X3)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (10)$$

Assume the following.

$$\forall X0.(v3_membered X0)\Rightarrow(v1_membered X0) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(v3_membered X1)\Rightarrow(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v3_valued_0 X2)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.(v1_membered X1)\Rightarrow(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_valued_0 X2)) \quad (15)$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 k1_numbers) \Rightarrow \\ & (\forall X3. ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k1_numbers k1_numbers)))) \Rightarrow (\forall X4. ((v1_funct_1 X4) \wedge (m1_subset_1 \\ & X4 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))) \Rightarrow ((X2 \in \\ & k9_subset_1 k1_numbers (k3_xboole_0 X0 X1) (k1_relset_1 k1_numbers \\ & (k3_valued_1 k1_numbers k1_numbers k1_numbers X3 X4))) \Rightarrow ((X2 \in \\ & k9_subset_1 k1_numbers X0 (k1_relset_1 k1_numbers X3)) \wedge (X2 \in k9_subset_1 \\ & k1_numbers X1 (k1_relset_1 k1_numbers X4)))))) \end{aligned}$$