

t22_fcont_3

(TMKs1VCx3HsbRfsVih6Mt8HQwPJfbk5dXsK)

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Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ 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 $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_valued_0 : \iota \Rightarrow o$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_subset_1 : \iota \Rightarrow \iota$ be given. Let $v6_valued_0 : \iota \Rightarrow o$ be given. Let $v1_fcont_1 : \iota \Rightarrow o$ be given. Let $k2_partfun2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_funct_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_rfunct_2 : \iota \Rightarrow o$ be given. Let $k7_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v2_valued_0 : \iota \Rightarrow o$ be given. Let $v8_valued_0 : \iota \Rightarrow o$ be given. Let $v7_valued_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_funct_1 X1) \wedge ((v2_funct_1 X1) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))))) \Rightarrow ((v5_valued_0 \\ & (k2_partfun1 k1_numbers k1_numbers (k2_partfun2 k1_numbers k1_numbers (k2_partfun1 \\ & k1_numbers k1_numbers X1 X0)) (k7_relset_1 k1_numbers k1_numbers \\ & X1 X0)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v2_funct_1 X0) \Rightarrow \\ & ((k10_xtuple_0 X0 = k9_xtuple_0 (k2_funct_1 X0)) \wedge (k9_xtuple_0 \\ & X0 = k10_xtuple_0 (k2_funct_1 X0)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1_funct_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ (k2_zfmisc_1 k1_numbers k1_numbers))))\Rightarrow(((r1_tarski X0 (k1_relset_1 \\ k1_numbers X1))\wedge((v1_rfunct_2 (k2_partfun1 k1_numbers k1_numbers \\ X1 X0))\wedge(k7_relset_1 k1_numbers k1_numbers X1 X0 = k1_numbers)))\Rightarrow \\ (v1_fcont_1 (k2_partfun1 k1_numbers k1_numbers X1 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0)\Rightarrow(k7_relat_1 X0 (k9_xtuple_0 X0) = k10_xtuple_0 X0) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1_funct_1 X1)\wedge((v2_funct_1 X1)\wedge(m1_subset_1 \\ X1 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))))\Rightarrow((v6_valued_0 \\ (k2_partfun1 k1_numbers k1_numbers X1 X0))\Rightarrow(v6_valued_0 (k2_partfun1 \\ k1_numbers k1_numbers (k2_partfun2 k1_numbers k1_numbers (k2_partfun1 \\ k1_numbers k1_numbers X1 X0)) (k7_relset_1 k1_numbers k1_numbers \\ X1 X0)))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.r1_tarski X0 X0 \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.(m1_subset_1 X2 (\\ k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(k7_relset_1 X0 X1 X2 X3 = k7_relat_1 \\ X2 X3) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v5_relat_1 X1 X0))\Rightarrow(\\ k2_relset_1 X0 X1 = k10_xtuple_0 X1) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v1_funct_1 X2)\wedge((v2_funct_1 \\ X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow(k2_partfun2 \\ X0 X1 X2 = k2_funct_1 X2) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge \\ (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow(k2_partfun1 \\ X0 X1 X2 X3 = k5_relat_1 X2 X3) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (11)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0)\Rightarrow(k5_relat_1 X0 (k9_xtuple_0 X0) = X0) \quad (12)$$

Assume the following.

$$v3_membered\ k1_numbers \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_funct_1 X2)\wedge((v2_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\Rightarrow((v1_funct_1 (k2_partfun2 X0 X1 X2))\wedge(m1_subset_1 (k2_partfun2 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 X1 X0)))) \quad (14)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge(v1_funct_1 X0))\Rightarrow((v1_relat_1 (k2_funct_1 X0))\wedge(v1_funct_1 (k2_funct_1 X0))) \quad (15)$$

Assume the following.

$$\forall X0.k2_subset_1 X0 = X0 \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow((v1_partfun1 X1 X0)\Leftrightarrow(k1_relset_1 X0 X1 = X0)) \quad (17)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge(v3_valued_0 X0))\Rightarrow((v1_relat_1 X0)\wedge(v2_valued_0 X0)) \quad (18)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))\Rightarrow(((v1_funct_1 X0)\wedge(v8_valued_0 X0))\Rightarrow((v1_funct_1 X0)\wedge(v1_rfunct_2 X0))) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (20)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge((v2_valued_0 X0)\wedge(v6_valued_0 X0))))\Rightarrow((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge((v2_valued_0 X0)\wedge(v8_valued_0 X0)))) \quad (21)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge((v2_valued_0 X0)\wedge(v5_valued_0 X0))))\Rightarrow((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge((v2_valued_0 X0)\wedge(v7_valued_0 X0)))) \quad (22)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))\Rightarrow((v1_funct_1 X0)\wedge(v7_valued_0 X0))\Rightarrow((v1_funct_1 X0)\wedge(v1_rfunct_2 X0))) \quad (23)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.(v3_membered X1)\Rightarrow(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v3_valued_0 X2)) \quad (25)$$

Theorem 1

$$\forall X0.((v1_funct_1 X0)\wedge((v2_funct_1 X0)\wedge(m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))))\Rightarrow((v1_partfun1 X0 k1_numbers)\Rightarrow(((\neg v5_valued_0 (k2_partfun1 k1_numbers k1_numbers X0 (k2_subset_1 k1_numbers)))\wedge(\neg v6_valued_0 (k2_partfun1 k1_numbers k1_numbers X0 (k2_subset_1 k1_numbers))))\vee(v1_fcont_1 (k2_partfun1 k1_numbers k1_numbers (k2_partfun2 k1_numbers k1_numbers X0) (k2_relset_1 k1_numbers X0))))))$$