

t50_funct_8
(TMSJmcx5x4J6szTwm8uSzSBZUrS5GieZkpH)

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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 $v4_funct_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_8 : \iota \Rightarrow o$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k20_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k18_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1_valued_0 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Let $v3_funct_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $v2_funct_8 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg (X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.r1_tarski (k3_xboole_0 X0 X1) X0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0))\Rightarrow(k9_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v3_membered X1)\wedge((v3_membered X2)\wedge(((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\wedge((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X2)))))))\Rightarrow(k20_valued_1 X0 X1 X2 X3 X4 = k18_valued_1 X3 X4) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (10)$$

Assume the following.

$$v3_membered k1_numbers \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Rightarrow(m1_subset_1 X2 X0)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v3_membered X1)\wedge((v3_membered X2)\wedge(((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\wedge((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X2)))))))\Rightarrow((v1_funct_1 (k20_valued_1 X0 X1 X2 X3 X4))\wedge(m1_subset_1 (k20_valued_1 X0 X1 X2 X3 X4) (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(m1_subset_1 (k1_relset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_valued_0 \\ & X0)))\wedge((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_valued_0 X1))))\Rightarrow \\ & ((v1_relat_1 (k18_valued_1 X0 X1))\wedge(v1_funct_1 (k18_valued_1 \\ & X0 X1))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_valued_0 X0)))\Rightarrow \\ & (\forall X1.((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_valued_0 \\ & X1))))\Rightarrow(\forall X2.((v1_relat_1 X2)\wedge(v1_funct_1 X2))\Rightarrow((X2 = k18_valued_1 \\ & X0 X1)\Leftrightarrow((k9_xtuple_0 X2 = k3_xboole_0 (k9_xtuple_0 X0) (k9_xtuple_0 \\ & X1))\wedge(\forall X3.(X3 \in k9_xtuple_0 X2)\Rightarrow(k1_funct_1 X2 X3 = k3_xcmplx_0 \\ & (k1_funct_1 X0 X3) (k1_funct_1 X1 X3)))))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_membered X0)\Rightarrow(\forall X1.(v1_membered X1)\Rightarrow(\forall X2. \\ & ((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 \\ & X1))))\Rightarrow((v3_funct_8 X2 X0 X1)\Leftrightarrow(\forall X3.(m1_subset_1 X3 k1_numbers)\Rightarrow \\ & (((X3 \in k1_relset_1 X0 X2)\wedge(k1_real_1 X3 \in k1_relset_1 X0 X2))\Rightarrow(\\ & k1_funct_1 X2 (k1_real_1 X3) = k1_funct_1 X2 X3)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0)\Rightarrow((v2_funct_8 X0)\Leftrightarrow(v1_funct_8 (k9_xtuple_0 X0))) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (19)$$

Assume the following.

$$\forall X0.(v3_membered X0)\Rightarrow(v1_membered X0) \quad (20)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_membered X0)\wedge(v1_membered X1))\Rightarrow(\\ & \forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow \\ & (((v1_funct_1 X2)\wedge(v4_funct_8 X2 X0 X1))\Rightarrow((v1_funct_1 X2)\wedge((\\ & v2_funct_8 X2)\wedge(v3_funct_8 X2 X0 X1)))))) \end{aligned} \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (22)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_membered\ X0)\wedge(v1_membered\ X1))\Rightarrow(\\ & \forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow \\ & (((v1_funct_1\ X2)\wedge((v2_funct_8\ X2)\wedge(v3_funct_8\ X2\ X0\ X1)))\Rightarrow(\\ & (v1_funct_1\ X2)\wedge(v4_funct_8\ X2\ X0\ X1)))) \end{aligned} \quad (23)$$

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.

$$\forall X0.\forall X1.(v1_membered\ X1)\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v1_valued_0\ X2)) \quad (25)$$

Theorem 1

$$\begin{aligned} & \forall X0.(((v1_funct_1\ X0)\wedge(m1_subset_1\ X0\ (k1_zfmisc_1\ (k2_zfmisc_1\ k1_numbers\ k1_numbers))))\Rightarrow(\forall X1.((v1_funct_1\ X1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ k1_numbers\ k1_numbers))))\Rightarrow(((v4_funct_8\ X0\ k1_numbers\ k1_numbers)\wedge((v4_funct_8\ X1\ k1_numbers\ k1_numbers)\wedge(v1_funct_8\ (k9_subset_1\ k1_numbers\ (k1_relset_1\ k1_numbers\ X0)\ (k1_relset_1\ k1_numbers\ X1))))\Rightarrow(v4_funct_8\ (k20_valued_1\ k1_numbers\ k1_numbers\ k1_numbers\ X0\ X1)\ k1_numbers\ k1_numbers)))) \end{aligned}$$