

t45_funct_8 (TMRbgh- Lqa93sTQroK8WS7KnYLUAVhcL4Pyu)

October 27, 2020

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 $v6_funct_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k3_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Let $v5_funct_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0)\wedge(v1_xcmplx_0 X1))\Rightarrow(k2_xcmplx_0 (k4_xcmplx_0 X0) (k4_xcmplx_0 X1) = k4_xcmplx_0 (k2_xcmplx_0 X0 X1)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0)))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0))\Rightarrow(k9_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v3_membered X1)\wedge((v3_membered X2)\wedge(((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\wedge((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X2)))))))\Rightarrow(k3_valued_1 X0 X1 X2 X3 X4 = k1_valued_1 X3 X4) \quad (10)$$

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.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(k1_real_1 X0 = k4_xcmplx_0 X0) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_valued_0 X0)))\Rightarrow(v1_xcmplx_0 (k1_funct_1 X0 X1)) \quad (13)$$

Assume the following.

$$v3_membered k1_numbers \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0)))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Rightarrow(m1_subset_1 X2 X0)) \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v3_membered \\ & X1)\wedge((v3_membered X2)\wedge(((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))))\wedge((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X2))))))\Rightarrow((v1_funct_1 (k3_valued_1 X0 X1 X2 X3 \\ & X4)\wedge(m1_subset_1 (k3_valued_1 X0 X1 X2 X3 X4) (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 k1_numbers)))))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_valued_0 \\ & X0)))\wedge((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_valued_0 X1))))\Rightarrow \\ & ((v1_relat_1 (k1_valued_1 X0 X1))\wedge(v1_funct_1 (k1_valued_1 X0 \\ & X1))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(\\ & m1_subset_1 (k1_relset_1 X0 X1) (k1_zfmisc_1 X0)) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_membered X0)\Rightarrow(\forall X1.(v1_membered X1)\Rightarrow(\forall X2. \\ & ((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 \\ & X1))))\Rightarrow((v5_funct_8 X2 X0 X1)\Leftrightarrow(\forall X3.(m1_subset_1 X3 k1_numbers)\Rightarrow \\ & (((X3 \in k1_relset_1 X0 X2)\wedge(k1_real_1 X3 \in k1_relset_1 X0 X2))\Rightarrow(\\ & k1_funct_1 X2 (k1_real_1 X3) = k4_xcmplx_0 (k1_funct_1 X2 X3)))))) \end{aligned} \quad (19)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_relat_1 X0)\Rightarrow((v2_funct_8 X0)\Leftrightarrow(v1_funct_8 (k9_xtuple_0 \\ & X0))) \end{aligned} \quad (20)$$

Assume the following.

$$\begin{aligned} & \forall X0.(((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_valued_0 X0)))\Rightarrow \\ & (\forall X1.(((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_valued_0 \\ & X1)))\Rightarrow(\forall X2.((v1_relat_1 X2)\wedge(v1_funct_1 X2))\Rightarrow((X2 = k1_valued_1 \\ & X0 X1)\Leftrightarrow(((k9_xtuple_0 X2 = k3_xboole_0 (k9_xtuple_0 X0) (k9_xtuple_0 \\ & X1))\wedge(\forall X3.(X3 \in k9_xtuple_0 X2)\Rightarrow(k1_funct_1 X2 X3 = k2_xcmplx_0 \\ & (k1_funct_1 X0 X3) (k1_funct_1 X1 X3))))))))) \end{aligned} \quad (21)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \end{aligned} \quad (22)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_valued_0 \\ & X0)))\wedge((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_valued_0 X1))))\Rightarrow \\ & (k1_valued_1 X0 X1 = k1_valued_1 X1 X0) \end{aligned} \quad (23)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(v1_membered\ X0) \quad (24)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.((v1_membered\ X0)\wedge(v1_membered\ X1))\Rightarrow(\\ &\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow \\ &(((v1_funct_1\ X2)\wedge(v6_funct_8\ X2\ X0\ X1))\Rightarrow((v1_funct_1\ X2)\wedge(\\ &\quad v2_funct_8\ X2)\wedge(v5_funct_8\ X2\ X0\ X1)))) \end{aligned} \quad (25)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.((v1_membered\ X0)\wedge(v1_membered\ X1))\Rightarrow(\\ &\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow \\ &(((v1_funct_1\ X2)\wedge((v2_funct_8\ X2)\wedge(v5_funct_8\ X2\ X0\ X1)))\Rightarrow(\\ &\quad (v1_funct_1\ X2)\wedge(v6_funct_8\ X2\ X0\ X1)))) \end{aligned} \quad (26)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow((v4_relat_1\ X2\ X0)\wedge(v5_relat_1\ X2\ X1)) \quad (27)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v1_relat_1\ X2) \quad (28)$$

Assume the following.

$$\forall X0.\forall X1.(v1_membered\ X1)\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v1_valued_0\ X2)) \quad (29)$$

Theorem 1

$$\begin{aligned} &\forall X0.((v1_funct_1\ X0)\wedge(m1_subset_1\ X0\ (k1_zfmisc_1\ (k2_zfmisc_1\ \\ &\quad k1_numbers\ k1_numbers))))\Rightarrow(\forall X1.((v1_funct_1\ X1)\wedge(m1_subset_1\ \\ &\quad X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ k1_numbers\ k1_numbers))))\Rightarrow(((v6_funct_8\ \\ &\quad X0\ k1_numbers\ k1_numbers)\wedge((v6_funct_8\ X1\ k1_numbers\ k1_numbers)\wedge \\ &\quad (v1_funct_8\ (k9_subset_1\ k1_numbers\ (k1_relset_1\ k1_numbers \\ &\quad X0)\ (k1_relset_1\ k1_numbers\ X1))))\Rightarrow(v6_funct_8\ (k3_valued_1 \\ &\quad k1_numbers\ k1_numbers\ k1_numbers\ X0\ X1)\ k1_numbers\ k1_numbers))) \end{aligned}$$