

t26_rfunct_4 (TMJFHcx- UbCvKAr32NCvQyuVHNgavsxX4tce)

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 $r3_rfunct_4 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $r4_rfunct_4 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $np_1 : \iota$ be given. Let $k9_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xxreal_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (1)$$

Assume the following.

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

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.

$$\forall X0.\forall X1.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_valued_0 X0))) \Rightarrow (k1_seq_1 X0 X1 = k1_funct_1 X0 X1) \quad (5)$$

Assume the following.

$$v3_membered\ k1_numbers \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_funct_1\ X0)\wedge(m1_subset_1\ X0\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ k1_numbers\ k1_numbers))))\Rightarrow(\forall X1.(r4_rfunct_4\ X0\ X1)\Leftrightarrow(\\ (r1_tarski\ X1\ (k9_xtuple_0\ X0))\wedge(\forall X2.(m1_subset_1\ X2\ k1_numbers)\Rightarrow \\ (\neg(\neg r1_xxreal_0\ X2\ k6_numbers)\wedge(\neg r1_xxreal_0\ np_1\ X2)\wedge(\exists X3. \\ (m1_subset_1\ X3\ k1_numbers)\wedge(\exists X4.(m1_subset_1\ X4\ k1_numbers)\wedge \\ ((X3\in X1)\wedge((X4\in X1)\wedge((k9_binop_2\ (k11_binop_2\ X2\ X3)\ (k11_binop_2 \\ (k10_binop_2\ np_1\ X2)\ X4)\in X1)\wedge((X3\neq X4)\wedge(r1_xxreal_0\ (k4_xxreal_0 \\ (k1_seq_1\ X0\ X3)\ (k1_seq_1\ X0\ X4))\ (k1_seq_1\ X0\ (k9_binop_2\ (k11_binop_2 \\ X2\ X3)\ (k11_binop_2\ (k10_binop_2\ np_1\ X2)\ X4)))))))))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1\ X0)\wedge(v1_funct_1\ X0))\Rightarrow((v2_funct_1\ X0)\Leftrightarrow \\ (\forall X1.\forall X2.((X1\in k9_xtuple_0\ X0)\wedge((X2\in k9_xtuple_0 \\ X0)\wedge(k1_funct_1\ X0\ X1 = k1_funct_1\ X0\ X2)))\Rightarrow(X1 = X2))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_funct_1\ X0)\wedge(m1_subset_1\ X0\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ k1_numbers\ k1_numbers))))\Rightarrow(\forall X1.(r3_rfunct_4\ X0\ X1)\Leftrightarrow(\\ (r1_tarski\ X1\ (k9_xtuple_0\ X0))\wedge(\forall X2.(m1_subset_1\ X2\ k1_numbers)\Rightarrow \\ (\neg(\neg r1_xxreal_0\ X2\ k6_numbers)\wedge(\neg r1_xxreal_0\ np_1\ X2)\wedge(\exists X3. \\ (m1_subset_1\ X3\ k1_numbers)\wedge(\exists X4.(m1_subset_1\ X4\ k1_numbers)\wedge \\ ((X3\in X1)\wedge((X4\in X1)\wedge((k9_binop_2\ (k11_binop_2\ X2\ X3)\ (k11_binop_2 \\ (k10_binop_2\ np_1\ X2)\ X4)\in X1)\wedge((k1_seq_1\ X0\ X3\neq k1_seq_1\ X0\ X4)\wedge \\ (r1_xxreal_0\ (k4_xxreal_0\ (k1_seq_1\ X0\ X3)\ (k1_seq_1\ X0\ X4))\ (k1_seq_1 \\ X0\ (k9_binop_2\ (k11_binop_2\ X2\ X3)\ (k11_binop_2\ (k10_binop_2\ np_1 \\ X2)\ X4)))))))))))))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v1_relat_1\ X2) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(v3_membered\ X1)\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v3_valued_0\ X2)) \quad (11)$$

Theorem 1

$$\begin{aligned} \forall X0.\forall X1.((v1_funct_1\ X1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1 \\ (k2_zfmisc_1\ k1_numbers\ k1_numbers))))\Rightarrow(((r3_rfunct_4\ X1\ X0)\wedge \\ (v2_funct_1\ X1))\Rightarrow(r4_rfunct_4\ X1\ X0)) \end{aligned}$$