

t23_limfunc3

(TMFn5bH41DYJtD2BHziNwMhbiLWH1QuQqy2)

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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 $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $v6_valued_0 : \iota \Rightarrow o$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_valued_0 : \iota \Rightarrow o$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_seq_2 : \iota \Rightarrow o$ be given. Let $r3_limfunc3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v8_valued_0 : \iota \Rightarrow o$ be given. Let $v7_valued_0 : \iota \Rightarrow o$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v2_valued_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.((v1_funct_1 \\
& X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))) \Rightarrow \\
& ((\forall X2.(m1_subset_1 X2 k1_numbers) \Rightarrow (\forall X3.(m1_subset_1 \\
& X3 k1_numbers) \Rightarrow (\neg(\neg r1_xxreal_0 X0 X2) \wedge (\neg r1_xxreal_0 X3 X0) \wedge \\
& (\forall X4.(m1_subset_1 X4 k1_numbers) \Rightarrow (\forall X5.(m1_subset_1 \\
& X5 k1_numbers) \Rightarrow (\neg(\neg r1_xxreal_0 X4 X2) \wedge (\neg r1_xxreal_0 X0 X4) \wedge \\
& ((X4 \in k9_xtuple_0 X1) \wedge (\neg r1_xxreal_0 X3 X5) \wedge (\neg r1_xxreal_0 X5 \\
& X0) \wedge (X5 \in k9_xtuple_0 X1)))))))))) \Rightarrow ((\forall X2.(m1_subset_1 \\
& X2 k1_numbers) \Rightarrow (\neg(v8_valued_0 (k2_partfun1 k1_numbers k1_numbers \\
& X1 (k2_rcomp_1 (k9_real_1 X0 X2) X0))) \wedge (v7_valued_0 (k2_partfun1 \\
& k1_numbers k1_numbers X1 (k2_rcomp_1 X0 (k7_real_1 X0 X2)))) \wedge \\
& (\neg v2_seq_2 (k2_partfun1 k1_numbers k1_numbers X1 (k2_rcomp_1 \\
& (k9_real_1 X0 X2) X0))) \wedge (\neg v2_seq_2 (k2_partfun1 k1_numbers k1_numbers \\
& X1 (k2_rcomp_1 X0 (k7_real_1 X0 X2)))))) \vee (r3_limfunc3 X1 X0))) \\
& \tag{1}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((v1_funct_1 X2) \wedge \\
& (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow (k2_partfun1 \\
& X0 X1 X2 X3 = k5_relat_1 X2 X3) \\
& \tag{2}
\end{aligned}$$

Assume the following.

$$v3_membered\ k1_numbers \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1\ X2)\wedge \\ & (m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))))\Rightarrow((v1_funct_1 \\ & (k2_partfun1\ X0\ X1\ X2\ X3))\wedge(m1_subset_1\ (k2_partfun1\ X0\ X1\ X2\ X3) \\ & (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.((v1_relat_1\ X0)\wedge(v3_valued_0\ X0))\Rightarrow((v1_relat_1\ X0)\wedge(v2_valued_0\ X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge((v2_valued_0 \\ & X0)\wedge(v6_valued_0\ X0))))\Rightarrow((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge \\ & ((v2_valued_0\ X0)\wedge(v8_valued_0\ X0)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge((v2_valued_0 \\ & X0)\wedge(v5_valued_0\ X0))))\Rightarrow((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge \\ & ((v2_valued_0\ X0)\wedge(v7_valued_0\ X0)))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1 \\ & (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v1_relat_1\ X2) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(v3_membered\ X1)\Rightarrow(\forall X2.(m1_subset_1 \\ & X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v3_valued_0\ X2)) \end{aligned} \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1\ X0\ k1_numbers)\Rightarrow(\forall X1.((v1_funct_1 \\ & X1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ k1_numbers))))\Rightarrow \\ & ((\forall X2.(m1_subset_1\ X2\ k1_numbers)\Rightarrow(\forall X3.(m1_subset_1 \\ & X3\ k1_numbers)\Rightarrow(\neg(\neg r1_xxreal_0\ X0\ X2)\wedge(\neg r1_xxreal_0\ X3\ X0)\wedge \\ & (\forall X4.(m1_subset_1\ X4\ k1_numbers)\Rightarrow(\forall X5.(m1_subset_1 \\ & X5\ k1_numbers)\Rightarrow(\neg(\neg r1_xxreal_0\ X4\ X2)\wedge(\neg r1_xxreal_0\ X0\ X4)\wedge \\ & ((X4 \in k9_xtuple_0\ X1)\wedge(\neg r1_xxreal_0\ X3\ X5)\wedge(\neg r1_xxreal_0\ X5 \\ & X0)\wedge(X5 \in k9_xtuple_0\ X1))))))))\Rightarrow((\forall X2.(m1_subset_1 \\ & X2\ k1_numbers)\Rightarrow(\neg(\neg r1_xxreal_0\ X2\ k6_numbers)\wedge((v6_valued_0 \\ & (k2_partfun1\ k1_numbers\ k1_numbers\ X1\ (k2_rcomp_1\ (k9_real_1 \\ & X0\ X2)\ X0))\wedge((v5_valued_0\ (k2_partfun1\ k1_numbers\ k1_numbers \\ & X1\ (k2_rcomp_1\ X0\ (k7_real_1\ X0\ X2))))\wedge(\neg v2_seq_2\ (k2_partfun1 \\ & k1_numbers\ k1_numbers\ X1\ (k2_rcomp_1\ (k9_real_1\ X0\ X2)\ X0))\wedge \\ & \neg v2_seq_2\ (k2_partfun1\ k1_numbers\ k1_numbers\ X1\ (k2_rcomp_1\ X0 \\ & (k7_real_1\ X0\ X2))))))))\vee(r3_limfunc3\ X1\ X0)))) \end{aligned}$$