

l28_lp_space

(TMarb7qAeWxUqWR94WHbu2AJ8uwwQmg3CNx)

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Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k1_numbers : \iota$ 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 $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k47_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_series_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k7_rsspace : \iota$ be given. Let $k1_rsspace : \iota$ be given. Let $k2_rsspace : \iota \Rightarrow \iota$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k26_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k45_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Let $v7_membered : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow \\ & (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers k1_numbers) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow \\ & (r2_funct_2 k5_numbers k1_numbers (k47_valued_1 k5_numbers k1_numbers \\ & k1_numbers (k3_valued_1 k5_numbers k1_numbers k1_numbers X0 X1) \\ & X1) X0)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& (u1_struct_0 \ k7_rsspace = k1_rsspace) \wedge ((\forall X0.(m1_subset_1 \\
& X0 \ (u1_struct_0 \ k7_rsspace)) \Leftrightarrow ((v1_funct_1 \ X0) \wedge ((v1_funct_2 \\
& X0 \ k5_numbers \ k1_numbers) \wedge (m1_subset_1 \ X0 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \\
& k5_numbers \ k1_numbers)))))) \wedge ((\forall X0.(m1_subset_1 \ X0 \ (u1_struct_0 \\
& k7_rsspace)) \Rightarrow (X0 = k2_rsspace \ X0)) \wedge ((\forall X0.(m1_subset_1 \\
& X0 \ (u1_struct_0 \ k7_rsspace)) \Rightarrow (\forall X1.(m1_subset_1 \ X1 \ (u1_struct_0 \\
& k7_rsspace)) \Rightarrow (k3_rlvect_1 \ k7_rsspace \ X0 \ X1 = k1_series_1 \ k1_numbers \\
& (k2_rsspace \ X0) \ (k2_rsspace \ X1)))) \wedge (\forall X0.(m1_subset_1 \\
& X0 \ k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \ X1 \ (u1_struct_0 \ k7_rsspace)) \Rightarrow \\
& (k1_rlvect_1 \ k7_rsspace \ X1 \ X0 = k26_valued_1 \ k5_numbers \ k1_numbers \\
& (k2_rsspace \ X1) \ X0))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1 \ X2) \wedge \\
& ((v1_funct_2 \ X2 \ X0 \ X1) \wedge (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \\
& X0 \ X1)))))) \wedge ((v1_funct_1 \ X3) \wedge ((v1_funct_2 \ X3 \ X0 \ X1) \wedge (m1_subset_1 \\
& X3 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1)))))) \Rightarrow ((r2_funct_2 \ X0 \ X1 \ X2 \\
& X3) \Rightarrow (r2_funct_2 \ X0 \ X1 \ X3 \ X2))
\end{aligned} \tag{3}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v3_membered \\
& X1) \wedge ((v3_membered \ X2) \wedge (((v1_funct_1 \ X3) \wedge (m1_subset_1 \ X3 \ (k1_zfmisc_1 \\
& (k2_zfmisc_1 \ X0 \ X1)))) \wedge ((v1_funct_1 \ X4) \wedge (m1_subset_1 \ X4 \ (k1_zfmisc_1 \\
& (k2_zfmisc_1 \ X0 \ X2)))))) \Rightarrow (k47_valued_1 \ X0 \ X1 \ X2 \ X3 \ X4 = k45_valued_1 \\
& X3 \ X4)
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v3_membered \\
& X1) \wedge ((v3_membered \ X2) \wedge (((v1_funct_1 \ X3) \wedge (m1_subset_1 \ X3 \ (k1_zfmisc_1 \\
& (k2_zfmisc_1 \ X0 \ X1)))) \wedge ((v1_funct_1 \ X4) \wedge (m1_subset_1 \ X4 \ (k1_zfmisc_1 \\
& (k2_zfmisc_1 \ X0 \ X2)))))) \Rightarrow (k3_valued_1 \ X0 \ X1 \ X2 \ X3 \ X4 = k1_valued_1 \\
& X3 \ X4)
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v1_xboole_0 X0)\wedge((v1_membered \\ & X0)\wedge(v7_membered X0)))\wedge(((v1_funct_1 X1)\wedge((v1_funct_2 X1 k5_numbers \\ & X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0))))\wedge \\ & ((v1_funct_1 X2)\wedge((v1_funct_2 X2 k5_numbers X0)\wedge(m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0))))))\Rightarrow(k1_series_1 \\ & X0 X1 X2 = k1_valued_1 X1 X2) \end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((\neg v1_xboole_0 \\ & X1)\wedge(v3_membered X1))\wedge(((\neg v1_xboole_0 X2)\wedge(v3_membered X2))\wedge \\ & (((v1_funct_1 X3)\wedge((v1_funct_2 X3 X0 X1)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))))\wedge((v1_funct_1 X4)\wedge((v1_funct_2 X4 X0 X2)\wedge \\ & (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X2))))))\Rightarrow((v1_funct_1 \\ & (k45_valued_1 X3 X4))\wedge(v1_partfun1 (k45_valued_1 X3 X4) X0)) \end{aligned} \tag{8}$$

Assume the following.

$$v7_membered k1_numbers \tag{9}$$

Assume the following.

$$v3_membered k1_numbers \tag{10}$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \tag{11}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v3_membered \\ & X1)\wedge((v3_membered X2)\wedge(((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))))\wedge((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X2))))))\Rightarrow((v1_funct_1 (k47_valued_1 X0 X1 X2 \\ & X3 X4))\wedge(m1_subset_1 (k47_valued_1 X0 X1 X2 X3 X4) (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 k1_numbers)))) \end{aligned} \tag{12}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v1_xboole_0 X0)\wedge((v1_membered \\ & X0)\wedge(v7_membered X0)))\wedge(((v1_funct_1 X1)\wedge((v1_funct_2 X1 k5_numbers \\ & X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0))))\wedge \\ & ((v1_funct_1 X2)\wedge((v1_funct_2 X2 k5_numbers X0)\wedge(m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0))))))\Rightarrow((v1_funct_1 \\ & (k1_series_1 X0 X1 X2))\wedge((v1_funct_2 (k1_series_1 X0 X1 X2) k5_numbers \\ & X0)\wedge(m1_subset_1 (k1_series_1 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 \\ & k5_numbers X0)))) \end{aligned} \tag{13}$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(v1_membered\ X0) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow((v1_partfun1\ X2\ X0)\Rightarrow(v1_funct_2\ X2\ X0\ X1)) \quad (15)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_funct_1\ X0)\wedge((v1_funct_2\ X0\ k5_numbers\ k1_numbers)\wedge \\ & (m1_subset_1\ X0\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ k1_numbers))))))\Rightarrow \\ & (\forall X1.((v1_funct_1\ X1)\wedge((v1_funct_2\ X1\ k5_numbers\ k1_numbers)\wedge \\ & (m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ k1_numbers))))))\Rightarrow \\ & (r2_funct_2\ k5_numbers\ k1_numbers\ X0\ (k47_valued_1\ k5_numbers\ k1_numbers\ k1_numbers\ (k1_series_1\ k1_numbers\ X0\ X1)\ X1)) \end{aligned}$$