

t39_lpspace2

(TMcH2yMH9SADw94WfZWkL8UBsUjergjJ66h)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_prob_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_prob_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_numbers : \iota$ be given. Let $v10_valued_0 : \iota \Rightarrow o$ be given. Let $v6_supinf_2 : \iota \Rightarrow o$ be given. Let $v4_measure1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $k5_lpspace2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_mesfunc6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $r1_lpspace1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_lpspace2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_ideal_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_lpspace1 : \iota \Rightarrow \iota$ be given. Let $v1_lpspace1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_mesfunc6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_mesfun6c : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k56_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

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.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\
& ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 X1 k7_numbers) \wedge ((v10_valued_0 X2) \wedge (v6_supinf_2 X2) \wedge ((v4_measure1 \\
& X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k7_numbers)))))) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k1_numbers)))) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge (m1_subset_1 \\
& X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow (\forall X5.(\\
& (v2_xreal_0 X5) \wedge (m1_subset_1 X5 k1_numbers)) \Rightarrow ((X4 \in k5_lpspace2 \\
& X0 X1 X2 X3 X5) \Rightarrow ((\forall X6.(m2_subset_1 X6 (k1_zfmisc_1 X0) X1) \Rightarrow \\
& (\neg(k1_funct_1 X2 (k3_subset_1 X0 X6) = k6_numbers) \wedge ((X6 = k1_relset_1 \\
& X0 X3) \wedge (r1_mesfunc6 X0 X1 X3 X6))) \vee ((r1_lpspace1 X0 X1 X2 X4 X3) \wedge \\
& (X3 \in k1_lpspace2 X0 X1 X2 X5)))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\
& ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 X1 k7_numbers) \wedge ((v10_valued_0 X2) \wedge (v6_supinf_2 X2) \wedge ((v4_measure1 \\
& X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k7_numbers)))))) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k1_numbers)))) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge (m1_subset_1 \\
& X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow (\forall X5.(\\
& (v1_funct_1 X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 X0 \\
& k1_numbers)))) \Rightarrow (((r1_lpspace1 X0 X1 X2 X3 X4) \wedge (r1_lpspace1 X0 \\
& X1 X2 X4 X5)) \Rightarrow (r1_lpspace1 X0 X1 X2 X3 X5))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \tag{5}$$

Assume the following.

$$k6_numbers = k1_xboole_0 \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\
& (((\neg v1_xboole_0 X1)\wedge((v1_prob_1 X1 X0)\wedge((v4_prob_1 X1 X0)\wedge(m1_subset_1 \\
& X1 (k1_zfmisc_1 (k1_zfmisc_1 X0))))))\wedge(((v1_funct_1 X2)\wedge((v1_funct_2 \\
& X2 X1 k7_numbers)\wedge((v10_valued_0 X2)\wedge((v6_supinf_2 X2)\wedge((v4_measure1 \\
& X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k7_numbers))))))))\wedge \\
& ((v2_xxreal_0 X3)\wedge(m1_subset_1 X3 k1_numbers))))\Rightarrow((\neg v1_xboole_0 \\
& (k1_lpspace2 X0 X1 X2 X3))\wedge((v1_ideal_1 (k1_lpspace2 X0 X1 X2 X3) \\
& (k7_lpspace1 X0))\wedge(v1_lpspace1 (k1_lpspace2 X0 X1 X2 X3) (k7_lpspace1 \\
& X0))))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((\neg v1_xboole_0 \\
& X0)\wedge(((\neg v1_xboole_0 X1)\wedge((v1_prob_1 X1 X0)\wedge((v4_prob_1 X1 X0)\wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0))))))\wedge(((v1_funct_1 \\
& X2)\wedge((v1_funct_2 X2 X1 k7_numbers)\wedge((v10_valued_0 X2)\wedge((v6_supinf_2 \\
& X2)\wedge((v4_measure1 X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X1 k7_numbers))))))))\wedge(((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 k1_numbers))))\wedge((v2_xxreal_0 X4)\wedge(m1_subset_1 \\
& X4 k1_numbers))))))\Rightarrow(m1_subset_1 (k5_lpspace2 X0 X1 X2 X3 X4) (\\
& k1_zfmisc_1 (k1_lpspace2 X0 X1 X2 X4)))
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((\neg v1_xboole_0 X1)\wedge \\
& ((v1_prob_1 X1 X0)\wedge((v4_prob_1 X1 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0))))))\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 \\
& X2 X1 k7_numbers)\wedge((v10_valued_0 X2)\wedge((v6_supinf_2 X2)\wedge((v4_measure1 \\
& X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k7_numbers))))))))\Rightarrow \\
& (\forall X3.((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k1_numbers))))\Rightarrow(\forall X4.((v2_xxreal_0 X4)\wedge(m1_subset_1 \\
& X4 k1_numbers))\Rightarrow(k5_lpspace2 X0 X1 X2 X3 X4 = \text{ReplSep} (\text{toset} (\lambda X5 : \\
& \iota.(v1_funct_1 X5)\wedge(m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k1_numbers)))))) (\lambda X5 : \iota.(X5 \in k1_lpspace2 X0 X1 X2 X4)\wedge(\\
& r1_lpspace1 X0 X1 X2 X3 X5)) (\lambda X5 : \iota.X5))))))
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\
& ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 X1 k7_numbers) \wedge ((v10_valued_0 X2) \wedge ((v6_supinf_2 X2) \wedge ((v4_measure1 \\
& X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k7_numbers)))))) \Rightarrow \\
& (\forall X3.((v2_xxreal_0 X3) \wedge (m1_subset_1 X3 k1_numbers)) \Rightarrow \\
& (k1_lpspace2 X0 X1 X2 X3 = ReplSep (toset (\lambda X4 : \iota.(v1_funct_1 \\
& X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))))) \\
& (\lambda X4 : \iota.\exists X5.(m2_subset_1 X5 (k1_zfmisc_1 X0) X1) \wedge \\
& ((k1_funct_1 X2 (k3_subset_1 X0 X5) = k6_numbers) \wedge ((k1_relset_1 \\
& X0 X4 = X5) \wedge ((r1_mesfunc6 X0 X1 X4 X5) \wedge (r3_mesfunc6 X0 X1 X2 (k2_mesfun6c \\
& X3 X0 (k56_valued_1 X0 k1_numbers X4)))))) (\lambda X4 : \iota.X4)))))) \\
& \hspace{15em} (10)
\end{aligned}$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Leftrightarrow (\forall X1.\neg X1 \in X0) \tag{11}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\
& ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 X1 k7_numbers) \wedge ((v10_valued_0 X2) \wedge ((v6_supinf_2 X2) \wedge ((v4_measure1 \\
& X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k7_numbers)))))) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k1_numbers)))) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge (m1_subset_1 \\
& X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow (\forall X5.(\\
& (v2_xxreal_0 X5) \wedge (m1_subset_1 X5 k1_numbers)) \Rightarrow ((k5_lpspace2 \\
& X0 X1 X2 X4 X5 = k5_lpspace2 X0 X1 X2 X3 X5) \Rightarrow ((\forall X6.(m2_subset_1 \\
& X6 (k1_zfmisc_1 X0) X1) \Rightarrow (\neg(k1_funct_1 X2 (k3_subset_1 X0 X6) = k6_numbers) \wedge \\
& ((X6 = k1_relset_1 X0 X3) \wedge (r1_mesfunc6 X0 X1 X3 X6)))) \vee ((k5_lpspace2 \\
& X0 X1 X2 X4 X5 = k1_xboole_0) \vee (r1_lpspace1 X0 X1 X2 X4 X3)))))))))
\end{aligned}$$