

t40_lpspace2
(TMM8Tmqhj1GtGLX4SiTHq4Ls9T1nQmhAMcy)

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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 $k1_lpspace2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $r1_lpspace1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge \\
& ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 X1 k7_numbers) \wedge ((v10_valued_0 X2) \wedge ((v6_supinf_2 X2) \wedge ((v4_measure1 \\
& X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k7_numbers))))))) \Rightarrow \\
& (\forall X3. ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k1_numbers)))) \Rightarrow (\forall X4. ((v2_xxreal_0 X4) \wedge (m1_subset_1 \\
& X4 k1_numbers)) \Rightarrow ((X3 \in k1_lpspace2 X0 X1 X2 X4) \Rightarrow (X3 \in k5_lpspace2 \\
& X0 X1 X2 X3 X4))))))
\end{aligned}
\tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\
& ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 X1 k7_numbers) \wedge ((v10_valued_0 X2) \wedge ((v6_supinf_2 X2) \wedge ((v4_measure1 \\
& X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k7_numbers)))))) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k1_numbers)))) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge (m1_subset_1 \\
& X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow (\forall X5.(\\
& (v2_xreal_0 X5) \wedge (m1_subset_1 X5 k1_numbers)) \Rightarrow ((X4 \in k5_lpspace2 \\
& X0 X1 X2 X3 X5) \Rightarrow ((\forall X6.(m2_subset_1 X6 (k1_zfmisc_1 X0) X1) \Rightarrow \\
& (\neg(k1_funct_1 X2 (k3_subset_1 X0 X6) = k6_numbers) \wedge ((X6 = k1_relset_1 \\
& X0 X3) \wedge (r1_mesfunc6 X0 X1 X3 X6)))) \vee ((r1_lpspace1 X0 X1 X2 X4 X3) \wedge \\
& (X3 \in k1_lpspace2 X0 X1 X2 X5))))))))) \Rightarrow \\
& \hspace{15em} (2)
\end{aligned}$$

Theorem 1

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