

t50_lpspace1 (TM- LZK5EihrcWvo6BxxbUpK7drypwG6TbYmB)

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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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k20_lpspace1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_lpspace1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_normsp_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_mesfunc6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k56_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_lpspace1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_lpspace1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge \\
& ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 X1 k7_numbers) \wedge ((v10_valued_0 X2) \wedge ((v6_supinf_2 X2) \wedge ((v4_measure1 \\
& X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k7_numbers))))))))) \Rightarrow \\
& (\forall X3. (m1_subset_1 X3 (u1_struct_0 (k20_lpspace1 X0 X1 X2))) \Rightarrow \\
& ((\exists X4. ((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (\\
& k2_zfmisc_1 X0 k1_numbers)))) \wedge ((X4 \in k9_lpspace1 X0 X1 X2) \wedge ((X3 = \\
& k13_lpspace1 X0 X1 X2 X4) \wedge (k1_normsp_0 (k20_lpspace1 X0 X1 X2) X3 = \\
& k1_mesfunc6 X0 X1 X2 (k56_valued_1 X0 k1_numbers X4)))))) \wedge (\forall X4. \\
& ((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 \\
& k1_numbers)))) \Rightarrow ((X4 \in X3) \Rightarrow (k1_mesfunc6 X0 X1 X2 (k56_valued_1 \\
& X0 k1_numbers X4) = k1_normsp_0 (k20_lpspace1 X0 X1 X2) X3))))))
\end{aligned}$$

(1)

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\
& ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 X1 k7_numbers) \wedge ((v10_valued_0 X2) \wedge ((v6_supinf_2 X2) \wedge ((v4_measure1 \\
& X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k7_numbers)))))) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k1_numbers)))) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge (m1_subset_1 \\
& X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow (((X3 \in k9_lpspace1 \\
& X0 X1 X2) \wedge (X4 \in k9_lpspace1 X0 X1 X2)) \Rightarrow ((k13_lpspace1 X0 X1 X2 X3 = \\
& k13_lpspace1 X0 X1 X2 X4) \Leftrightarrow (r1_lpspace1 X0 X1 X2 X3 X4)))))) \\
& \hspace{15em} (2)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\
& ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 X1 k7_numbers) \wedge ((v10_valued_0 X2) \wedge ((v6_supinf_2 X2) \wedge ((v4_measure1 \\
& X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k7_numbers)))))) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k1_numbers)))) \Rightarrow (k13_lpspace1 X0 X1 X2 X3 = ReplSep (toset (\lambda X4 : \\
& \iota.(v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k1_numbers)))))) (\lambda X4 : \iota.(X4 \in k9_lpspace1 X0 X1 X2) \wedge ((X3 \in \\
& k9_lpspace1 X0 X1 X2) \wedge (r1_lpspace1 X0 X1 X2 X3 X4)) (\lambda X4 : \iota. \\
& X4)))))) \\
& \hspace{15em} (3)
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\
& ((v1_prob_1 X1 X0) \wedge ((v4_prob_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 X1 k7_numbers) \wedge ((v10_valued_0 X2) \wedge ((v6_supinf_2 X2) \wedge ((v4_measure1 \\
& X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 k7_numbers)))))) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 k1_numbers)))) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 (\\
& k20_lpspace1 X0 X1 X2)) \Rightarrow ((X3 \in X4) \Rightarrow ((X4 = k13_lpspace1 X0 X1 X2 X3) \wedge \\
& (k1_normsp_0 (k20_lpspace1 X0 X1 X2) X4 = k1_mesfunc6 X0 X1 X2 (k56_valued_1 \\
& X0 k1_numbers X3))))))
\end{aligned}$$