

# t47\_lpspace2 (TMbXox5t1yCzhnJuS8tKpEXna2socaDf1kA)

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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  $k1\_lpspace2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_lpspace2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k26\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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. Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((\neg v1\_xboole\_0 X1) \wedge \\
& ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2. ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 \\
& X2 X1 k7\_numbers) \wedge ((v10\_valued\_0 X2) \wedge ((v6\_supinf\_2 X2) \wedge ((v4\_measure1 \\
& X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 k7\_numbers)))))) \Rightarrow \\
& (\forall X3. ((v1\_funct\_1 X3) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& X0 k1\_numbers)))) \Rightarrow (\forall X4. ((v1\_funct\_1 X4) \wedge (m1\_subset\_1 \\
& X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))) \Rightarrow (\forall X5. ( \\
& m1\_subset\_1 X5 k1\_numbers) \Rightarrow (\forall X6. ((v2\_xxreal\_0 X6) \wedge (m1\_subset\_1 \\
& X6 k1\_numbers)) \Rightarrow ((k5\_lpspace2 X0 X1 X2 X3 X6 = k5\_lpspace2 X0 X1 X2 \\
& X4 X6) \Rightarrow ((\forall X7. (m2\_subset\_1 X7 (k1\_zfmisc\_1 X0) X1) \Rightarrow (\neg (k1\_funct\_1 \\
& X2 (k3\_subset\_1 X0 X7) = k6\_numbers) \wedge ((k1\_relset\_1 X0 X3 = X7) \wedge ( \\
& r1\_mesfunc6 X0 X1 X3 X7)))) \vee ((\forall X7. (m2\_subset\_1 X7 (k1\_zfmisc\_1 \\
& X0) X1) \Rightarrow (\neg (k1\_funct\_1 X2 (k3\_subset\_1 X0 X7) = k6\_numbers) \wedge ((k1\_relset\_1 \\
& X0 X4 = X7) \wedge (r1\_mesfunc6 X0 X1 X4 X7)))) \vee ((v1\_xboole\_0 (k5\_lpspace2 \\
& X0 X1 X2 X3 X6) \vee (k5\_lpspace2 X0 X1 X2 (k26\_valued\_1 X0 k1\_numbers \\
& X3 X5) X6 = k5\_lpspace2 X0 X1 X2 (k26\_valued\_1 X0 k1\_numbers X4 X5) \\
& X6))))))))))
\end{aligned}$$

(1)

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\
& ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 \\
& X2 X1 k7\_numbers) \wedge ((v10\_valued\_0 X2) \wedge ((v6\_supinf\_2 X2) \wedge ((v4\_measure1 \\
& X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 k7\_numbers)))))) \Rightarrow \\
& (\forall X3.((v1\_funct\_1 X3) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& X0 k1\_numbers)))) \Rightarrow (\forall X4.((v2\_xxreal\_0 X4) \wedge (m1\_subset\_1 \\
& X4 k1\_numbers)) \Rightarrow ((X3 \in k1\_lpspace2 X0 X1 X2 X4) \Rightarrow (X3 \in k5\_lpspace2 \\
& X0 X1 X2 X3 X4))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\
& ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 \\
& X2 X1 k7\_numbers) \wedge ((v10\_valued\_0 X2) \wedge ((v6\_supinf\_2 X2) \wedge ((v4\_measure1 \\
& X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 k7\_numbers)))))) \Rightarrow \\
& (\forall X3.((v1\_funct\_1 X3) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& X0 k1\_numbers)))) \Rightarrow (\forall X4.((v2\_xxreal\_0 X4) \wedge (m1\_subset\_1 \\
& X4 k1\_numbers)) \Rightarrow (\neg (X3 \in k1\_lpspace2 X0 X1 X2 X4) \wedge (\forall X5.(m2\_subset\_1 \\
& X5 (k1\_zfmisc\_1 X0) X1) \Rightarrow (\neg (k1\_funct\_1 X2 (k3\_subset\_1 X0 X5) = k6\_numbers) \wedge \\
& ((k1\_relset\_1 X0 X3 = X5) \wedge (r1\_mesfunc6 X0 X1 X3 X5)))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Leftrightarrow (\forall X1.\neg X1 \in X0) \tag{4}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\
& ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 \\
& X2 X1 k7\_numbers) \wedge ((v10\_valued\_0 X2) \wedge ((v6\_supinf\_2 X2) \wedge ((v4\_measure1 \\
& X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 k7\_numbers)))))) \Rightarrow \\
& (\forall X3.((v1\_funct\_1 X3) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& X0 k1\_numbers)))) \Rightarrow (\forall X4.((v1\_funct\_1 X4) \wedge (m1\_subset\_1 \\
& X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))) \Rightarrow (\forall X5.( \\
& m1\_subset\_1 X5 k1\_numbers) \Rightarrow (\forall X6.((v2\_xxreal\_0 X6) \wedge (m1\_subset\_1 \\
& X6 k1\_numbers)) \Rightarrow (((X3 \in k1\_lpspace2 X0 X1 X2 X6) \wedge ((X4 \in k1\_lpspace2 \\
& X0 X1 X2 X6) \wedge (k5\_lpspace2 X0 X1 X2 X3 X6 = k5\_lpspace2 X0 X1 X2 X4 X6)) \Rightarrow \\
& (k5\_lpspace2 X0 X1 X2 (k26\_valued\_1 X0 k1\_numbers X3 X5) X6 = k5\_lpspace2 \\
& X0 X1 X2 (k26\_valued\_1 X0 k1\_numbers X4 X5) X6)))))))))
\end{aligned}$$