t22_lpspace2 (TMJ76fD5aakGWAfdX3Y6AcwA4uwqcer7s7a)

October 27, 2020

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 $v2\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $k1\_lpspace2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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. Let $k3\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3\_membered : \iota \Rightarrow o$ be given. Let $v1\_membered : \iota \Rightarrow o$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ 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.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge ((v1\_prob\_1\ X1\ X0) \wedge ((v4\_prob\_1\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ X0)))))) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ X1\ k7\_numbers) \wedge ((v10\_valued\_0\ X2) \wedge ((v6\_supinf\_2\ X2) \wedge ((v4\_measure1\ X2\ X0\ X1) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ k7\_numbers))))))))) \Rightarrow (\forall X3.((v1\_funct\_1\ X3) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers)))) \Rightarrow (\forall X4.((v1\_funct\_1\ X4) \wedge (m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers)))) \Rightarrow (((r3\_mesfunc6\ X0\ X1\ X2\ X3) \wedge (r3\_mesfunc6\ X0\ X1\ X2\ X4)) \Rightarrow (r3\_mesfunc6\ X0\ X1\ X2\ (k3\_valued\_1\ X0\ k1\_numbers\ k1\_numbers\ X3\ X4)))))) \tag{1}$$

Assume the following.

$$v3\_membered\ k1\_numbers \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_membered\ X1)\wedge((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))\Rightarrow((v1\_funct\_1\ (k56\_valued\_1\ X0\ X1\ X2))\wedge(m1\_subset\_1\ (k56\_valued\_1\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers)))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_xreal\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ k1\_numbers))))))\Rightarrow((v1\_funct\_1\ (k2\_mesfun6c\ X0\ X1\ X2))\wedge(m1\_subset\_1\ (k2\_mesfun6c\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ k1\_numbers)))) \tag{4}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge((v1\_prob\_1\ X1\ X0)\wedge((v4\_prob\_1\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ X0))))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X1\ k7\_numbers)\wedge((v10\_valued\_0\ X2)\wedge((v6\_supinf\_2\ X2)\wedge((v4\_measure1\ X2\ X0\ X1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ k7\_numbers))))))))\Rightarrow(\forall X3.((v2\_xxreal\_0\ X3)\wedge(m1\_subset\_1\ X3\ k1\_numbers))\Rightarrow(k1\_lpspace2\ X0\ X1\ X2\ X3 = ReplSep\ (toset\ (\lambda X4 : \iota.(v1\_funct\_1\ X4)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers)))))\ (\lambda X4 : \iota.\exists X5.(m2\_subset\_1\ X5\ (k1\_zfmisc\_1\ X0)\ X1)\wedge((k1\_funct\_1\ X2\ (k3\_subset\_1\ X0\ X5) = k6\_numbers)\wedge((k1\_relset\_1\ X0\ X4 = X5)\wedge((r1\_mesfunc6\ X0\ X1\ X4\ X5)\wedge(r3\_mesfunc6\ X0\ X1\ X2\ (k2\_mesfun6c\ X3\ X0\ (k56\_valued\_1\ X0\ k1\_numbers\ X4)))))))\ (\lambda X4 : \iota.X4))))) \tag{5}$$

Assume the following.

$$\forall X0.(v3\_membered\ X0)\Rightarrow(v1\_membered\ X0) \tag{6}$$

Assume the following.

$$\forall X0.(v3\_membered\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow(v1\_xreal\_0\ X1)) \tag{7}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge ((v1\_prob\_1\ X1\ X0)\wedge((v4\_prob\_1\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ X0))))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X1\ k7\_numbers)\wedge((v10\_valued\_0\ X2)\wedge((v6\_supinf\_2\ X2)\wedge((v4\_measure1\ X2\ X0\ X1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ k7\_numbers))))))))\Rightarrow(\forall X3.((v2\_xxreal\_0\ X3)\wedge(m1\_subset\_1\ X3\ k1\_numbers))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers))))\Rightarrow(\forall X5.((v1\_funct\_1\ X5)\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers))))\Rightarrow(((X4\in k1\_lpspace2\ X0\ X1\ X2\ X3)\wedge(X5\in k1\_lpspace2\ X0\ X1\ X2\ X3))\Rightarrow((r3\_mesfunc6\ X0\ X1\ X2\ (k2\_mesfun6c\ X3\ X0\ (k56\_valued\_1\ X0\ k1\_numbers\ X4)))\wedge((r3\_mesfunc6\ X0\ X1\ X2\ (k2\_mesfun6c\ X3\ X0\ (k56\_valued\_1\ X0\ k1\_numbers\ X5)))\wedge(r3\_mesfunc6\ X0\ X1\ X2\ (k3\_valued\_1\ X0\ k1\_numbers\ k1\_numbers\ (k2\_mesfun6c\ X3\ X0\ (k56\_valued\_1\ X0\ k1\_numbers\ X4))\ (k2\_mesfun6c\ X3\ X0\ (k56\_valued\_1\ X0\ k1\_numbers\ X5))))))))))))$$