t15_projred1 (TMaFMt6jyB5cWr9Q2Rt935wmoFXVQADMYiM)

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Let $v6\_incsp\_1 : \iota \Rightarrow o$ be given. Let $v1\_incproj : \iota \Rightarrow o$ be given. Let $v2\_incproj : \iota \Rightarrow o$ be given. Let $v3\_incproj : \iota \Rightarrow o$ be given. Let $v4\_incproj : \iota \Rightarrow o$ be given. Let $v8\_incproj : \iota \Rightarrow o$ be given. Let $l1\_incsp\_1 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_incsp\_1 : \iota \Rightarrow \iota$ be given. Let $u2\_incsp\_1 : \iota \Rightarrow \iota$ be given. Let $r1\_incsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r4\_incsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(l1\_incsp\_1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u2\_incsp\_1\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_incsp\_1\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_incsp\_1\ X0)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (u1\_incsp\_1\ X0)) \Rightarrow ((r4\_incsp\_1\ X0\ (k8\_domain\_1\ (u1\_incsp\_1\ X0)\ X2\ X3\ X4)\ X1) \Leftrightarrow ((r1\_incsp\_1\ X0\ X2\ X1) \wedge ((r1\_incsp\_1\ X0\ X3\ X1) \wedge (r1\_incsp\_1\ X0\ X4\ X1)))))))) \tag{1}$$

Assume the following.

$$\forall X0.(l1\_incsp\_1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u2\_incsp\_1\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_incsp\_1\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_incsp\_1\ X0)) \Rightarrow ((r4\_incsp\_1\ X0\ (k7\_domain\_1\ (u1\_incsp\_1\ X0)\ X2\ X3)\ X1) \Leftrightarrow ((r1\_incsp\_1\ X0\ X2\ X1) \wedge (r1\_incsp\_1\ X0\ X3\ X1))))))) \tag{2}$$

Assume the following.

$$\forall X0.((v6\_incsp\_1\ X0)\wedge((v1\_incproj\ X0)\wedge((v2\_incproj\ X0)\wedge((v3\_incproj\ X0)\wedge((v4\_incproj\ X0)\wedge((v8\_incproj\ X0)\wedge(l1\_incsp\_1\ X0)))))))\Rightarrow(\exists X1.(m1\_subset\_1\ X1\ (u1\_incsp\_1\ X0))\wedge(\exists X2.(m1\_subset\_1\ X2\ (u1\_incsp\_1\ X0))\wedge(\exists X3.(m1\_subset\_1\ X3\ (u1\_incsp\_1\ X0))\wedge(\exists X4.(m1\_subset\_1\ X4\ (u1\_incsp\_1\ X0))\wedge(\exists X5.(m1\_subset\_1\ X5\ (u1\_incsp\_1\ X0))\wedge(\exists X6.(m1\_subset\_1\ X6\ (u1\_incsp\_1\ X0))\wedge(\exists X7.(m1\_subset\_1\ X7\ (u1\_incsp\_1\ X0))\wedge(\exists X8.(m1\_subset\_1\ X8\ (u2\_incsp\_1\ X0))\wedge(\exists X9.(m1\_subset\_1\ X9\ (u2\_incsp\_1\ X0))\wedge(\exists X10.(m1\_subset\_1\ X10\ (u2\_incsp\_1\ X0))\wedge(\exists X11.(m1\_subset\_1\ X11\ (u2\_incsp\_1\ X0))\wedge(\exists X12.(m1\_subset\_1\ X12\ (u2\_incsp\_1\ X0))\wedge(\exists X13.(m1\_subset\_1\ X13\ (u2\_incsp\_1\ X0))\wedge(\exists X14.(m1\_subset\_1\ X14\ (u2\_incsp\_1\ X0))\wedge(\exists X15.(m1\_subset\_1\ X15\ (u2\_incsp\_1\ X0))\wedge(\exists X16.(m1\_subset\_1\ X16\ (u1\_incsp\_1\ X0))\wedge((\neg r1\_incsp\_1\ X0\ X2\ X12)\wedge((\neg r1\_incsp\_1\ X0\ X3\ X12)\wedge((\neg r1\_incsp\_1\ X0\ X1\ X11)\wedge((\neg r1\_incsp\_1\ X0\ X4\ X11)\wedge((\neg r1\_incsp\_1\ X0\ X1\ X13)\wedge((\neg r1\_incsp\_1\ X0\ X3\ X13)\wedge((\neg r1\_incsp\_1\ X0\ X2\ X14)\wedge((\neg r1\_incsp\_1\ X0\ X4\ X14)\wedge((r4\_incsp\_1\ X0\ (k8\_domain\_1\ (u1\_incsp\_1\ X0)\ X5\ X1\ X4)\ X12)\wedge((r4\_incsp\_1\ X0\ (k8\_domain\_1\ (u1\_incsp\_1\ X0)\ X5\ X2\ X3)\ X11)\wedge((r4\_incsp\_1\ X0\ (k8\_domain\_1\ (u1\_incsp\_1\ X0)\ X6\ X2\ X4)\ X13)\wedge((r4\_incsp\_1\ X0\ (k8\_domain\_1\ (u1\_incsp\_1\ X0)\ X6\ X1\ X3)\ X14)\wedge((r4\_incsp\_1\ X0\ (k8\_domain\_1\ (u1\_incsp\_1\ X0)\ X7\ X1\ X2)\ X8)\wedge((r4\_incsp\_1\ X0\ (k8\_domain\_1\ (u1\_incsp\_1\ X0)\ X7\ X3\ X4)\ X9)\wedge((r4\_incsp\_1\ X0\ (k7\_domain\_1\ (u1\_incsp\_1\ X0)\ X5\ X6)\ X10)\wedge((\neg r1\_incsp\_1\ X0\ X7\ X10)\wedge((r1\_incsp\_1\ X0\ X6\ X15)\wedge((r1\_incsp\_1\ X0\ X7\ X15)\wedge((r2\_zfmisc\_1\ X10\ X15\ X13\ X14)\wedge((r1\_incsp\_1\ X0\ X16\ X8)\wedge(r2\_zfmisc\_1\ X7\ X16\ X1\ X2))))))))))))))))))))))))))))))))) \tag{3}$$

Theorem 1

$$\forall X0.((v6\_incsp\_1\ X0)\wedge((v1\_incproj\ X0)\wedge((v2\_incproj\ X0)\wedge((v3\_incproj\ X0)\wedge((v4\_incproj\ X0)\wedge((v8\_incproj\ X0)\wedge(l1\_incsp\_1\ X0)))))))\Rightarrow(\exists X1.(m1\_subset\_1\ X1\ (u1\_incsp\_1\ X0))\wedge(\exists X2.(m1\_subset\_1\ X2\ (u2\_incsp\_1\ X0))\wedge(\exists X3.(m1\_subset\_1\ X3\ (u2\_incsp\_1\ X0))\wedge(\exists X4.(m1\_subset\_1\ X4\ (u2\_incsp\_1\ X0))\wedge(\exists X5.(m1\_subset\_1\ X5\ (u2\_incsp\_1\ X0))\wedge((r1\_incsp\_1\ X0\ X1\ X2)\wedge((r1\_incsp\_1\ X0\ X1\ X3)\wedge((r1\_incsp\_1\ X0\ X1\ X4)\wedge((r1\_incsp\_1\ X0\ X1\ X5)\wedge(r2\_zfmisc\_1\ X2\ X3\ X4\ X5)))))))))$$