

# t5\_projpl\_1

(TMZMXp92rqq4zeQxEKHeKUPzRqJVzAnXSgZ)

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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  $r4\_projpl\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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  $r4\_incsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k8\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.(l1\_incsp\_1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u2\_incsp\_1 \\
& \quad X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_incsp\_1 X0)) \Rightarrow (\forall X3. \\
& \quad (m1\_subset\_1 X3 (u1\_incsp\_1 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 \\
& \quad (u1\_incsp\_1 X0)) \Rightarrow ((r4\_incsp\_1 X0 X2 X1) \wedge ((r1\_incsp\_1 X0 X3 X1) \wedge (r1\_incsp\_1 \\
& \quad X2 X3 X4) X1) \Leftrightarrow ((r1\_incsp\_1 X0 X2 X1) \wedge ((r1\_incsp\_1 X0 X3 X1) \wedge (r1\_incsp\_1 \\
& \quad X0 X4 X1)))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1\_incsp\_1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_incsp\_1 \\
& \quad X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_incsp\_1 X0)) \Rightarrow (\forall X3. \\
& (m1\_subset\_1 X3 (u1\_incsp\_1 X0)) \Rightarrow ((r4\_projpl\_1 X0 X1 X2 X3) \Leftrightarrow (\exists X4. \\
& \quad (m1\_subset\_1 X4 (u2\_incsp\_1 X0)) \wedge (r4\_incsp\_1 X0 X1 X4) \wedge ((r1\_incsp\_1 \\
& \quad (u1\_incsp\_1 X0) X1 X2 X3) X4))))))
\end{aligned} \tag{2}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(l1\_incsp\_1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_incsp\_1 \\
& \quad X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_incsp\_1 X0)) \Rightarrow (\forall X3. \\
& (m1\_subset\_1 X3 (u1\_incsp\_1 X0)) \Rightarrow ((r4\_projpl\_1 X0 X1 X2 X3) \Leftrightarrow (\exists X4. \\
& \quad (m1\_subset\_1 X4 (u2\_incsp\_1 X0)) \wedge (r1\_incsp\_1 X0 X1 X4) \wedge ((r1\_incsp\_1 \\
& \quad X0 X2 X4) \wedge (r1\_incsp\_1 X0 X3 X4))))))
\end{aligned}$$