

# t10\_projpl\_1 (TMYHp- wGdqLtVXL6bDuSnw9ug3vc3tw4dFxF)

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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  $u2\_incsp\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_projpl\_1 : \iota \Rightarrow o$  be given. Let  $r4\_incsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_incsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r4\_projpl\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

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

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.(l1\_incsp\_1 X0) \Rightarrow ((v1\_projpl\_1 X0) \Leftrightarrow (\forall X1.(m1\_subset\_1 \\ & \quad X1 (u1\_incsp\_1 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_incsp\_1 X0)) \Rightarrow \\ & \quad (\forall X3.(m1\_subset\_1 X3 (u2\_incsp\_1 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 \\ & \quad X4 (u2\_incsp\_1 X0)) \Rightarrow (\neg(r1\_incsp\_1 X0 X1 X3) \wedge ((r1\_incsp\_1 X0 X2 \\ & \quad X3) \wedge (r1\_incsp\_1 X0 X1 X4) \wedge ((r1\_incsp\_1 X0 X2 X4) \wedge ((X1 \neq X2) \wedge (X3 \neq \\ & \quad X4)))))))))) \end{aligned} \tag{3}$$

**Theorem 1**

$$\begin{aligned} \forall X0.(l1\_incsp\_1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_incsp\_1 \\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_incsp\_1 X0)) \Rightarrow (\forall X3. \\ (m1\_subset\_1 X3 (u1\_incsp\_1 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 \\ (u2\_incsp\_1 X0)) \Rightarrow (\neg(v1\_projpl\_1 X0) \wedge ((r4\_incsp\_1 X0 (k7\_domain\_1 \\ (u1\_incsp\_1 X0) X1 X2) X4) \wedge ((X1 \neq X2) \wedge ((\neg r1\_incsp\_1 X0 X3 X4) \wedge (r4\_projpl\_1 \\ X0 X1 X2 X3)))))))))) \end{aligned}$$