

t16\_projred1  
(TMH52kTre6SuFuydYgfno4RXdC68e7pfcno)

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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  $k8\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

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

Assume the following.

$$\begin{aligned}
& \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))))))))))))))))) \\
& \hspace{15em} (2)
\end{aligned}$$

**Theorem 1**

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