

# t23\_projred1

(TMaHYNrr2VaxexUcS4mAPFHiVk9MRENTogB)

October 27, 2020

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  $v5\_incproj : \iota \Rightarrow o$  be given. Let  $v9\_incproj : \iota \Rightarrow o$  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  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_projred1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.((v6\_incsp\_1 X0) \wedge ((v1\_incproj X0) \wedge ((v2\_incproj X0) \wedge \\
& ((v3\_incproj X0) \wedge ((v4\_incproj X0) \wedge ((v5\_incproj X0) \wedge ((v9\_incproj \\
& X0) \wedge (l1\_incsp\_1 X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_incsp\_1 \\
& X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_incsp\_1 X0)) \Rightarrow (\forall X3. \\
& (m1\_subset\_1 X3 (u1\_incsp\_1 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 \\
& (u2\_incsp\_1 X0)) \Rightarrow (\forall X5.(m1\_subset\_1 X5 (u2\_incsp\_1 X0)) \Rightarrow \\
& (((r1\_incsp\_1 X0 X2 X4) \wedge (X3 = k1\_funct\_1 (k1\_projred1 X0 X4 X5 X1) \\
& X2)) \Rightarrow ((r1\_incsp\_1 X0 X1 X4) \vee ((r1\_incsp\_1 X0 X1 X5) \vee (r1\_incsp\_1 \\
& X0 X3 X5))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. (((v6\_incsp\_1 X0) \wedge \\
& ((v1\_incproj X0) \wedge ((v2\_incproj X0) \wedge ((v3\_incproj X0) \wedge ((v4\_incproj \\
& X0) \wedge ((v5\_incproj X0) \wedge ((v9\_incproj X0) \wedge (l1\_incsp\_1 X0)))))) \wedge \\
& ((m1\_subset\_1 X1 (u2\_incsp\_1 X0)) \wedge ((m1\_subset\_1 X2 (u2\_incsp\_1 \\
& X0)) \wedge (m1\_subset\_1 X3 (u1\_incsp\_1 X0)))) \Rightarrow ((v1\_funct\_1 (k1\_projred1 \\
& X0 X1 X2 X3)) \wedge (m1\_subset\_1 (k1\_projred1 X0 X1 X2 X3) (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 (u1\_incsp\_1 X0) (u1\_incsp\_1 X0))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v6\_incsp\_1 X0) \wedge ((v1\_incproj X0) \wedge ((v2\_incproj X0) \wedge \\
& ((v3\_incproj X0) \wedge ((v4\_incproj X0) \wedge ((v5\_incproj X0) \wedge ((v9\_incproj \\
& X0) \wedge (l1\_incsp\_1 X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u2\_incsp\_1 \\
& X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u2\_incsp\_1 X0)) \Rightarrow (\forall X3. \\
& (m1\_subset\_1 X3 (u1\_incsp\_1 X0)) \Rightarrow (\neg(\neg r1\_incsp\_1 X0 X3 X1) \wedge (\neg \\
& r1\_incsp\_1 X0 X3 X2) \wedge (\neg \forall X4.((v1\_funct\_1 X4) \wedge (m1\_subset\_1 \\
& X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_incsp\_1 X0) (u1\_incsp\_1 X0)))))) \Rightarrow \\
& ((X4 = k1\_projred1 X0 X1 X2 X3) \Leftrightarrow ((r1\_tarski (k1\_relset\_1 (u1\_incsp\_1 \\
& X0) X4) (u1\_incsp\_1 X0)) \wedge ((\forall X5.(m1\_subset\_1 X5 (u1\_incsp\_1 \\
& X0)) \Rightarrow ((X5 \in k1\_relset\_1 (u1\_incsp\_1 X0) X4) \Leftrightarrow (r1\_incsp\_1 X0 X5 X1))) \wedge \\
& (\forall X5.(m1\_subset\_1 X5 (u1\_incsp\_1 X0)) \Rightarrow (\forall X6.(m1\_subset\_1 \\
& X6 (u1\_incsp\_1 X0)) \Rightarrow (((r1\_incsp\_1 X0 X5 X1) \wedge (r1\_incsp\_1 X0 X6 X2)) \Rightarrow \\
& ((k1\_funct\_1 X4 X5 = X6) \Leftrightarrow (\exists X7.(m1\_subset\_1 X7 (u2\_incsp\_1 \\
& X0)) \wedge ((r1\_incsp\_1 X0 X3 X7) \wedge ((r1\_incsp\_1 X0 X5 X7) \wedge (r1\_incsp\_1 \\
& X0 X6 X7))))))))))))) \tag{3}
\end{aligned}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((v6\_incsp\_1 X0) \wedge ((v1\_incproj X0) \wedge ((v2\_incproj X0) \wedge \\
& ((v3\_incproj X0) \wedge ((v4\_incproj X0) \wedge ((v5\_incproj X0) \wedge ((v9\_incproj \\
& X0) \wedge (l1\_incsp\_1 X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_incsp\_1 \\
& X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u2\_incsp\_1 X0)) \Rightarrow (\forall X3. \\
& (m1\_subset\_1 X3 (u2\_incsp\_1 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 \\
& (u1\_incsp\_1 X0)) \Rightarrow (\forall X5.(m1\_subset\_1 X5 (u1\_incsp\_1 X0)) \Rightarrow \\
& (\forall X6.(m1\_subset\_1 X6 (u1\_incsp\_1 X0)) \Rightarrow (\forall X7.(m1\_subset\_1 \\
& X7 (u1\_incsp\_1 X0)) \Rightarrow (((r1\_incsp\_1 X0 X4 X2) \wedge ((r1\_incsp\_1 X0 X5 \\
& X2) \wedge ((k1\_funct\_1 (k1\_projred1 X0 X2 X3 X1) X4 = X6) \wedge ((k1\_funct\_1 \\
& (k1\_projred1 X0 X2 X3 X1) X5 = X7) \wedge (X6 = X7)))))) \Rightarrow ((r1\_incsp\_1 X0 X1 \\
& X2) \vee ((r1\_incsp\_1 X0 X1 X3) \vee (X4 = X5)))))))))
\end{aligned}$$