

t20_projred2

(TMYPrDAKNr5sjciR5EFjkF4pwxmSqhxcG53)

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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 $v5_incproj : \iota \Rightarrow o$ 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 $r1_projred2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_projred1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((v6_incsp_1 X0) \wedge ((v1_incproj X0) \wedge ((v2_incproj X0) \wedge \\
& ((v3_incproj X0) \wedge ((v4_incproj X0) \wedge ((v5_incproj X0) \wedge ((v9_incproj \\
& X0) \wedge (l1_incsp_1 X0)))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_incsp_1 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_incsp_1 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u2_incsp_1 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& (u2_incsp_1 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u2_incsp_1 X0)) \Rightarrow \\
& (\forall X6.(m1_subset_1 X6 (u2_incsp_1 X0)) \Rightarrow (\forall X7.(m1_subset_1 \\
& X7 (u2_incsp_1 X0)) \Rightarrow (\neg(\neg r1_incsp_1 X0 X1 X3) \wedge ((\neg r1_incsp_1 X0 \\
& X2 X4) \wedge ((\neg r1_incsp_1 X0 X1 X5) \wedge ((\neg r1_incsp_1 X0 X2 X5) \wedge ((\neg r1_projred2 \\
& X0 X3 X4 X5) \wedge ((r1_projred2 X0 X3 X5 X6) \wedge ((\neg r1_incsp_1 X0 X2 X6) \wedge (\\
& X3 \neq X6) \wedge ((X1 \neq X2) \wedge ((r1_incsp_1 X0 X1 X7) \wedge ((r1_incsp_1 X0 X2 X7) \wedge \\
& ((r1_projred2 X0 X4 X5 X7) \wedge (\forall X8.(m1_subset_1 X8 (u1_incsp_1 \\
& X0)) \Rightarrow (\neg(r1_incsp_1 X0 X8 X7) \wedge ((\neg r1_incsp_1 X0 X8 X3) \wedge ((\neg r1_incsp_1 \\
& X0 X8 X6) \wedge (k3_relat_1 (k1_projred1 X0 X3 X5 X1) (k1_projred1 X0 X5 \\
& X4 X2) = k3_relat_1 (k1_projred1 X0 X3 X6 X8) (k1_projred1 X0 X6 X4 \\
& X2))))))))))))))))))
\end{aligned}$$

(1)

Assume the following.

$$\begin{aligned}
& \forall X0.((v6_incsp_1 X0) \wedge ((v1_incproj X0) \wedge ((v2_incproj X0) \wedge \\
& ((v3_incproj X0) \wedge ((v4_incproj X0) \wedge ((v5_incproj X0) \wedge ((v9_incproj \\
& X0) \wedge (l1_incsp_1 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_incsp_1 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_incsp_1 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u2_incsp_1 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& (u2_incsp_1 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u2_incsp_1 X0)) \Rightarrow \\
& (\forall X6.(m1_subset_1 X6 (u2_incsp_1 X0)) \Rightarrow (\forall X7.(m1_subset_1 \\
& X7 (u2_incsp_1 X0)) \Rightarrow (\neg(\neg r1_incsp_1 X0 X1 X3) \wedge ((\neg r1_incsp_1 X0 \\
& X2 X4) \wedge ((\neg r1_incsp_1 X0 X1 X5) \wedge ((\neg r1_incsp_1 X0 X2 X5) \wedge ((\neg r1_projred2 \\
& X0 X3 X4 X5) \wedge ((r1_projred2 X0 X3 X5 X6) \wedge ((\neg r1_incsp_1 X0 X2 X6) \wedge (\\
& (X3 \neq X6) \wedge ((X1 \neq X2) \wedge ((r1_incsp_1 X0 X1 X7) \wedge ((r1_incsp_1 X0 X2 X7) \wedge \\
& ((\neg r1_projred2 X0 X4 X5 X7) \wedge (\forall X8.(m1_subset_1 X8 (u1_incsp_1 \\
& X0)) \Rightarrow (\neg(r1_incsp_1 X0 X8 X7) \wedge ((\neg r1_incsp_1 X0 X8 X3) \wedge ((\neg r1_incsp_1 \\
& X0 X8 X6) \wedge (k3_relat_1 (k1_projred1 X0 X3 X5 X1) (k1_projred1 X0 X5 \\
& X4 X2) = k3_relat_1 (k1_projred1 X0 X3 X6 X8) (k1_projred1 X0 X6 X4 \\
& X2))))))))))))))))))))) \\
& \hspace{20em} (2)
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v6_incsp_1 X0) \wedge ((v1_incproj X0) \wedge ((v2_incproj X0) \wedge \\
& ((v3_incproj X0) \wedge ((v4_incproj X0) \wedge ((v5_incproj X0) \wedge ((v9_incproj \\
& X0) \wedge (l1_incsp_1 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_incsp_1 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_incsp_1 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u2_incsp_1 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& (u2_incsp_1 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u2_incsp_1 X0)) \Rightarrow \\
& (\forall X6.(m1_subset_1 X6 (u2_incsp_1 X0)) \Rightarrow (\forall X7.(m1_subset_1 \\
& X7 (u2_incsp_1 X0)) \Rightarrow (\neg(\neg r1_incsp_1 X0 X1 X3) \wedge ((\neg r1_incsp_1 X0 \\
& X2 X4) \wedge ((\neg r1_incsp_1 X0 X1 X5) \wedge ((\neg r1_incsp_1 X0 X2 X5) \wedge ((\neg r1_projred2 \\
& X0 X3 X4 X5) \wedge ((r1_projred2 X0 X3 X5 X6) \wedge ((\neg r1_incsp_1 X0 X2 X6) \wedge (\\
& (X3 \neq X6) \wedge ((X1 \neq X2) \wedge ((r1_incsp_1 X0 X1 X7) \wedge ((r1_incsp_1 X0 X2 X7) \wedge \\
& (\forall X8.(m1_subset_1 X8 (u1_incsp_1 X0)) \Rightarrow (\neg(r1_incsp_1 X0 \\
& X8 X7) \wedge ((\neg r1_incsp_1 X0 X8 X3) \wedge ((\neg r1_incsp_1 X0 X8 X6) \wedge (k3_relat_1 \\
& (k1_projred1 X0 X3 X5 X1) (k1_projred1 X0 X5 X4 X2) = k3_relat_1 (k1_projred1 \\
& X0 X3 X6 X8) (k1_projred1 X0 X6 X4 X2))))))))))))))))))))) \\
& \hspace{20em} (2)
\end{aligned}$$