

t15_projpl_1

(TMYhrg2R62QhZ6Mwa7qGQHnzWFBqr7b3oM)

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Let $l1_incsp_1 : \iota \Rightarrow o$ be given. 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_incsp_1 : \iota \Rightarrow \iota$ be given. Let $r5_projpl_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $v1_projpl_1 : \iota \Rightarrow o$ 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 $r1_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_projpl_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_projpl_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(l1_incsp_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_incsp_1 \\ & \quad X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u2_incsp_1 X0)) \Rightarrow (\forall X3. \\ & \quad (m1_subset_1 X3 (u2_incsp_1 X0)) \Rightarrow (\neg((v6_incsp_1 X0) \wedge ((v1_incproj \\ & \quad X0) \wedge ((v2_incproj X0) \wedge ((v3_incproj X0) \wedge ((v4_incproj X0) \wedge (l1_incsp_1 \\ & \quad X0)))))) \wedge ((X2 \neq X3) \wedge (\forall X4.(m1_subset_1 X4 (u1_incsp_1 X0)) \Rightarrow \\ & \quad (\neg(r1_incsp_1 X0 X4 X2) \wedge (\neg r1_incsp_1 X0 X4 X3) \wedge (X1 \neq X4)))))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_incsp_1 X0) \Rightarrow (\neg((v6_incsp_1 X0) \wedge ((v1_incproj \\ & \quad X0) \wedge ((v2_incproj X0) \wedge ((v3_incproj X0) \wedge ((v4_incproj X0) \wedge (l1_incsp_1 \\ & \quad X0)))))) \wedge (\forall X1.(m1_subset_1 X1 (u2_incsp_1 X0)) \Rightarrow (\forall X2. \\ & \quad (m1_subset_1 X2 (u2_incsp_1 X0)) \Rightarrow (X1 = X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_incsp_1 X0) \Rightarrow (((v6_incsp_1 X0) \wedge ((v1_incproj X0) \wedge \\
& ((v2_incproj X0) \wedge ((v3_incproj X0) \wedge ((v4_incproj X0) \wedge (l1_incsp_1 \\
& X0)))))) \Leftrightarrow ((v1_projpl_1 X0) \wedge ((\forall X1.(m1_subset_1 X1 (u1_incsp_1 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_incsp_1 X0)) \Rightarrow (\exists X3. \\
& (m1_subset_1 X3 (u2_incsp_1 X0)) \wedge (r4_incsp_1 X0 (k7_domain_1 \\
& (u1_incsp_1 X0) X1 X2) X3)))))) \wedge ((\neg \forall X1.(m1_subset_1 X1 (u1_incsp_1 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u2_incsp_1 X0)) \Rightarrow (r1_incsp_1 \\
& X0 X1 X2))) \wedge ((\forall X1.(m1_subset_1 X1 (u2_incsp_1 X0)) \Rightarrow (\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 \\
& ((r1_zfmisc_1 X2 X3 X4) \wedge (r4_incsp_1 X0 (k8_domain_1 (u1_incsp_1 \\
& X0) X2 X3 X4) X1)))))) \wedge (\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 \\
& (u1_incsp_1 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_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 (\forall X8.(m1_subset_1 X8 (u2_incsp_1 X0)) \Rightarrow \\
& (\forall X9.(m1_subset_1 X9 (u2_incsp_1 X0)) \Rightarrow (\neg (r4_incsp_1 X0 \\
& (k8_domain_1 (u1_incsp_1 X0) X1 X2 X5) X6) \wedge ((r4_incsp_1 X0 (k8_domain_1 \\
& (u1_incsp_1 X0) X3 X4 X5) X7) \wedge ((r4_incsp_1 X0 (k7_domain_1 (u1_incsp_1 \\
& X0) X1 X3) X8) \wedge ((r4_incsp_1 X0 (k7_domain_1 (u1_incsp_1 X0) X2 X4) \\
& X9) \wedge ((\neg r1_incsp_1 X0 X5 X8) \wedge ((\neg r1_incsp_1 X0 X5 X9) \wedge ((X6 \neq X7) \wedge \\
& (\forall X10.(m1_subset_1 X10 (u1_incsp_1 X0)) \Rightarrow (\neg r2_projpl_1 \\
& X0 X10 X8 X9)))))))))))))))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v6_incsp_1 X0) \wedge ((v1_incproj X0) \wedge ((v2_incproj X0) \wedge \\
& ((v3_incproj X0) \wedge ((v4_incproj X0) \wedge (l1_incsp_1 X0)))))) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (u2_incsp_1 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& (u2_incsp_1 X0)) \Rightarrow (\neg (X1 \neq X2) \wedge (\forall X3.(m1_subset_1 X3 (u1_incsp_1 \\
& X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_incsp_1 X0)) \Rightarrow (\neg (r1_incsp_1 \\
& X0 X3 X1) \wedge ((\neg r1_incsp_1 X0 X3 X2) \wedge ((r1_incsp_1 X0 X4 X2) \wedge (\neg r1_incsp_1 \\
& X0 X4 X1))))))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_incsp_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u2_incsp_1 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_incsp_1 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_incsp_1 X0)) \Rightarrow ((r4_incsp_1 X0 (k7_domain_1 \\
& (u1_incsp_1 X0) X2 X3) X1) \Leftrightarrow ((r1_incsp_1 X0 X2 X1) \wedge (r1_incsp_1 X0 \\
& X3 X1))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_incsp_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_incsp_1 \\
& \quad X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_incsp_1 X0)) \Rightarrow (\forall X3. \\
& \quad (m1_subset_1 X3 (u1_incsp_1 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& \quad (u1_incsp_1 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u2_incsp_1 X0)) \Rightarrow \\
& \quad (\forall X6.(m1_subset_1 X6 (u2_incsp_1 X0)) \Rightarrow (((v1_projpl_1 \\
& \quad X0) \wedge ((r4_incsp_1 X0 (k7_domain_1 (u1_incsp_1 X0) X1 X2) X5) \wedge ((\\
& \quad r4_incsp_1 X0 (k7_domain_1 (u1_incsp_1 X0) X3 X4) X6) \wedge ((r1_projpl_1 \\
& \quad X0 X1 X2 X6) \wedge (r1_projpl_1 X0 X3 X4 X5)))))) \Rightarrow ((X1 = X2) \vee ((X3 = X4) \vee (\\
& \quad r5_projpl_1 X0 X1 X2 X3 X4)))))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_incsp_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_incsp_1 \\
& \quad X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_incsp_1 X0)) \Rightarrow (\forall X3. \\
& \quad (m1_subset_1 X3 (u2_incsp_1 X0)) \Rightarrow ((r1_projpl_1 X0 X1 X2 X3) \Leftrightarrow ((\\
& \quad \neg r1_incsp_1 X0 X1 X3) \wedge (\neg r1_incsp_1 X0 X2 X3))))))
\end{aligned} \tag{7}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(l1_incsp_1 X0) \Rightarrow (\neg((v6_incsp_1 X0) \wedge ((v1_incproj \\
& \quad X0) \wedge ((v2_incproj X0) \wedge ((v3_incproj X0) \wedge ((v4_incproj X0) \wedge (l1_incsp_1 \\
& \quad X0)))))) \wedge (\forall X1.(m1_subset_1 X1 (u1_incsp_1 X0)) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (u1_incsp_1 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& \quad (u1_incsp_1 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_incsp_1 X0)) \Rightarrow \\
& \quad (\neg r5_projpl_1 X0 X1 X2 X3 X4))))))
\end{aligned}$$