

t21_projpl_1 (TMUQzvo- qQb3Z8U5HyfwbcnrR3CEkdVXB0CK)

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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 $r3_projpl_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_projpl_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_incsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (r1_zfmisc_1 X0 X1 X2) \Leftrightarrow ((X0 \neq X1) \wedge ((X0 \neq X2) \wedge (X1 \neq X2))) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (l1_incsp_1 X0) \Rightarrow & ((v1_projpl_1 X0) \Leftrightarrow (\forall X1. (m1_subset_1 \\ X1 (u1_incsp_1 X0)) \Rightarrow & (\forall X2. (m1_subset_1 X2 (u1_incsp_1 X0)) \Rightarrow \\ (\forall X3. (m1_subset_1 X3 (u2_incsp_1 X0)) \Rightarrow & (\forall X4. (m1_subset_1 \\ X4 (u2_incsp_1 X0)) \Rightarrow & (\neg (r1_incsp_1 X0 X1 X3) \wedge ((r1_incsp_1 X0 X2 \\ X3) \wedge (r1_incsp_1 X0 X1 X4) \wedge & ((r1_incsp_1 X0 X2 X4) \wedge ((X1 \neq X2) \wedge (X3 \neq \\ X4)))))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. (l1_incsp_1 X0) \Rightarrow & (\forall X1. (m1_subset_1 X1 (u1_incsp_1 \\ X0)) \Rightarrow & (\forall X2. (m1_subset_1 X2 (u2_incsp_1 X0)) \Rightarrow (\forall X3. \\ (m1_subset_1 X3 (u2_incsp_1 X0)) \Rightarrow & (\forall X4. (m1_subset_1 X4 \\ (u2_incsp_1 X0)) \Rightarrow & ((r3_projpl_1 X0 X1 X2 X3 X4) \Leftrightarrow ((r1_incsp_1 X0 \\ X1 X2) \wedge ((r1_incsp_1 X0 X1 X3) \wedge & (r1_incsp_1 X0 X1 X4)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. (l1_incsp_1 X0) \Rightarrow & (\forall X1. (m1_subset_1 X1 (u1_incsp_1 \\ X0)) \Rightarrow & (\forall X2. (m1_subset_1 X2 (u2_incsp_1 X0)) \Rightarrow (\forall X3. \\ (m1_subset_1 X3 (u2_incsp_1 X0)) \Rightarrow & ((r2_projpl_1 X0 X1 X2 X3) \Leftrightarrow ((\\ r1_incsp_1 X0 X1 X2) \wedge & (r1_incsp_1 X0 X1 X3)))) \end{aligned} \quad (4)$$

Theorem 1

$$\begin{aligned} & \forall X0.(l1_incsp_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_incsp_1 \\ & \quad X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_incsp_1 X0)) \Rightarrow (\forall X3. \\ & \quad (m1_subset_1 X3 (u1_incsp_1 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\ & \quad (u1_incsp_1 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u2_incsp_1 X0)) \Rightarrow \\ & \quad (\forall X6.(m1_subset_1 X6 (u2_incsp_1 X0)) \Rightarrow (\forall X7.(m1_subset_1 \\ & \quad X7 (u2_incsp_1 X0)) \Rightarrow (\forall X8.(m1_subset_1 X8 (u2_incsp_1 X0)) \Rightarrow \\ & \quad ((v1_projpl_1 X0) \wedge (r3_projpl_1 X0 X1 X5 X6 X7) \wedge ((r1_zfmisc_1 \\ & \quad X5 X6 X7) \wedge (r2_projpl_1 X0 X2 X8 X5) \wedge (r2_projpl_1 X0 X3 X8 X6) \wedge (\\ & \quad r2_projpl_1 X0 X4 X8 X7)))))) \Rightarrow ((r1_incsp_1 X0 X1 X8) \vee (r1_zfmisc_1 \\ & \quad X2 X3 X4)))))) \end{aligned}$$