

t57_incsp_1 (TMafYQMrHisxN- mJHAXu6XuKx9aH24CbB1Jp)

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Let $v15_incsp_1 : \iota \Rightarrow o$ be given. Let $l2_incsp_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4_incsp_1 : \iota \Rightarrow \iota$ be given. Let $u1_incsp_1 : \iota \Rightarrow \iota$ be given. Let $r2_incsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $r5_incsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_incsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_incsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r4_incsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v14_incsp_1 : \iota \Rightarrow o$ be given. Let $v12_incsp_1 : \iota \Rightarrow o$ be given. Let $v11_incsp_1 : \iota \Rightarrow o$ be given. Let $v5_incsp_1 : \iota \Rightarrow o$ be given. Let $v6_incsp_1 : \iota \Rightarrow o$ be given. Let $v7_incsp_1 : \iota \Rightarrow o$ be given. Let $v8_incsp_1 : \iota \Rightarrow o$ be given. Let $v9_incsp_1 : \iota \Rightarrow o$ be given. Let $v10_incsp_1 : \iota \Rightarrow o$ be given. Let $v13_incsp_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(l2_incsp_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_incsp_1 \\ & \quad X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_incsp_1 X0)) \Rightarrow (\forall X3. \\ & \quad (m1_subset_1 X3 (u4_incsp_1 X0)) \Rightarrow ((r5_incsp_1 X0 (k7_domain_1 \\ & \quad (u1_incsp_1 X0) X1 X2) X3) \Leftrightarrow ((r2_incsp_1 X0 X1 X3) \wedge (r2_incsp_1 X0 \\ & \quad X2 X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v15_incsp_1 X0) \wedge (l2_incsp_1 X0)) \Rightarrow (\forall X1.(\\ & \quad m1_subset_1 X1 (u1_incsp_1 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (\\ & \quad u2_incsp_1 X0)) \Rightarrow (\neg(\neg r1_incsp_1 X0 X1 X2) \wedge (\forall X3.(m1_subset_1 \\ & \quad X3 (u4_incsp_1 X0)) \Rightarrow (\neg \forall X4.(m1_subset_1 X4 (u4_incsp_1 \\ & \quad X0)) \Rightarrow (((r2_incsp_1 X0 X1 X4) \wedge (r3_incsp_1 X0 X2 X4)) \Leftrightarrow (X3 = X4)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((v15_incsp_1 X0) \wedge (l2_incsp_1 \\ & \quad X0)) \wedge ((m1_subset_1 X1 (u1_incsp_1 X0)) \wedge (m1_subset_1 X2 (u1_incsp_1 \\ & \quad X0)))) \Rightarrow (m1_subset_1 (k1_incsp_1 X0 X1 X2) (u2_incsp_1 X0)) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0.((v15_incsp_1 X0) \wedge (l2_incsp_1 X0)) \Rightarrow (\forall X1. (\\ m1_subset_1 X1 (u1_incsp_1 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (\\ u1_incsp_1 X0)) \Rightarrow ((X1 \neq X2) \Rightarrow (\forall X3. (m1_subset_1 X3 (u2_incsp_1 \\ X0)) \Rightarrow ((X3 = k1_incsp_1 X0 X1 X2) \Leftrightarrow (r4_incsp_1 X0 (k7_domain_1 (u1_incsp_1 \\ X0) X1 X2) X3)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. (l2_incsp_1 X0) \Rightarrow ((v14_incsp_1 X0) \Leftrightarrow (\forall X1. (m1_subset_1 \\ X1 (u1_incsp_1 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u2_incsp_1 X0)) \Rightarrow \\ (\forall X3. (m1_subset_1 X3 (u4_incsp_1 X0)) \Rightarrow ((r1_incsp_1 X0 \\ X1 X2) \wedge (r3_incsp_1 X0 X2 X3)) \Rightarrow (r2_incsp_1 X0 X1 X3)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. (l2_incsp_1 X0) \Rightarrow ((v12_incsp_1 X0) \Leftrightarrow (\forall X1. (m1_subset_1 \\ X1 (u1_incsp_1 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u4_incsp_1 X0)) \Rightarrow \\ (\forall X3. (m1_subset_1 X3 (u4_incsp_1 X0)) \Rightarrow (\neg (r2_incsp_1 X0 \\ X1 X2) \wedge ((r2_incsp_1 X0 X1 X3) \wedge (\forall X4. (m1_subset_1 X4 (u1_incsp_1 \\ X0)) \Rightarrow (\neg (X1 \neq X4) \wedge ((r2_incsp_1 X0 X4 X2) \wedge (r2_incsp_1 X0 X4 X3)))))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. (l2_incsp_1 X0) \Rightarrow ((v11_incsp_1 X0) \Leftrightarrow (\forall X1. (m1_subset_1 \\ X1 (u2_incsp_1 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u4_incsp_1 X0)) \Rightarrow \\ ((\exists X3. (m1_subset_1 X3 (u1_incsp_1 X0)) \wedge (\exists X4. (m1_subset_1 \\ X4 (u1_incsp_1 X0)) \wedge ((X3 \neq X4) \wedge ((r4_incsp_1 X0 (k7_domain_1 (u1_incsp_1 \\ X0) X3 X4) X1) \wedge (r5_incsp_1 X0 (k7_domain_1 (u1_incsp_1 X0) X3 X4) \\ X2)))))) \Rightarrow (r3_incsp_1 X0 X1 X2)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0. (l2_incsp_1 X0) \Rightarrow ((v15_incsp_1 X0) \Rightarrow ((v5_incsp_1 X0) \wedge \\ ((v6_incsp_1 X0) \wedge ((v7_incsp_1 X0) \wedge ((v8_incsp_1 X0) \wedge ((v9_incsp_1 \\ X0) \wedge ((v10_incsp_1 X0) \wedge ((v11_incsp_1 X0) \wedge ((v12_incsp_1 X0) \wedge \\ ((v13_incsp_1 X0) \wedge (v14_incsp_1 X0)))))))))) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} \forall X0. ((v15_incsp_1 X0) \wedge (l2_incsp_1 X0)) \Rightarrow (\forall X1. (\\ m1_subset_1 X1 (u4_incsp_1 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (\\ u4_incsp_1 X0)) \Rightarrow (\neg (X1 \neq X2) \wedge ((\exists X3. (m1_subset_1 X3 (u1_incsp_1 \\ X0)) \wedge ((r2_incsp_1 X0 X3 X1) \wedge (r2_incsp_1 X0 X3 X2))) \wedge (\forall X3. \\ (m1_subset_1 X3 (u2_incsp_1 X0)) \Rightarrow (\neg \forall X4. (m1_subset_1 X4 \\ (u1_incsp_1 X0)) \Rightarrow (((r2_incsp_1 X0 X4 X1) \wedge (r2_incsp_1 X0 X4 X2)) \Leftrightarrow \\ (r1_incsp_1 X0 X4 X3)))))))))) \end{aligned}$$