

t7_orders_2 (TM- MxKM46Da3Y5SE4z6k7XfS5XayKuYxqcu4)

October 27, 2020

Let $v4_orders_2 : \iota \Rightarrow o$ be given. Let $v5_orders_2 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r2_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow (((r2_orders_2 X0 X1 X2) \wedge (r2_orders_2 X0 X2 \\ & X3)) \Rightarrow (r2_orders_2 X0 X1 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((r2_orders_2 \\ & X0 X1 X2) \Leftrightarrow ((r1_orders_2 X0 X1 X2) \wedge (X1 \neq X2)))))) \end{aligned} \quad (2)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow (((r2_orders_2 X0 X1 X2) \wedge (r1_orders_2 X0 X2 \\ & X3)) \vee ((r1_orders_2 X0 X1 X2) \wedge (r2_orders_2 X0 X2 X3)) \Rightarrow (r2_orders_2 \\ & X0 X1 X3)))))) \end{aligned}$$