

t56_orders_1
(TMHtC7cFQu77S3aeqo6y9PsvuPEgNdR1SF2)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $r6_orders_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v6_relat_2 : \iota \Rightarrow o$ be given. Let $r8_orders_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relat_1 : \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_relat_1 X0) \Rightarrow ((v6_relat_2 X0) \Leftrightarrow (\forall X1.\forall X2. \\ & \neg(X1 \in k1_relat_1 X0) \wedge ((X2 \in k1_relat_1 X0) \wedge ((X1 \neq X2) \wedge ((\neg k4_tarski \\ & X1 X2 \in X0) \wedge (\neg k4_tarski X2 X1 \in X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(r8_orders_1 X0 X1) \Leftrightarrow (\\ & (X1 \in k1_relat_1 X0) \wedge (\forall X2.(X2 \in k1_relat_1 X0) \Rightarrow ((X2 = X1) \vee \\ & (k4_tarski X2 X1 \in X0)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(r6_orders_1 X0 X1) \Leftrightarrow (\\ & (X1 \in k1_relat_1 X0) \wedge (\forall X2.\neg(X2 \in k1_relat_1 X0) \wedge ((X2 \neq X1) \wedge \\ & (k4_tarski X1 X2 \in X0)))))) \end{aligned} \quad (3)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.((r6_orders_1 X0 X1) \wedge \\ & (v6_relat_2 X0)) \Rightarrow (r8_orders_1 X0 X1)) \end{aligned}$$