

t8\_orders\_1

(TMWEztXSHWdekfcuvkoGppKm2Pp5tiDzpqk)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $r1\_relat\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (1)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow (\forall X1. (r1\_relat\_2 X0 X1) \Leftrightarrow (\forall X2. (X2 \in X1) \Rightarrow (k4\_tarski X2 X2 \in X0))) \quad (2)$$

**Theorem 1**

$$\forall X0. \forall X1. \forall X2. (v1\_relat\_1 X2) \Rightarrow (((r1\_relat\_2 X2 X0) \wedge (r1\_tarski X1 X0)) \Rightarrow (r1\_relat\_2 X2 X1))$$