

## t32\_orders\_1

(TML6foZWbAY2rZL94WHkFDA6US8zfyw887X)

October 27, 2020

Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $r1\_orders\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_relat\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r8\_relat\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (v1\_relat\_1 X2) \Rightarrow ((r1\_relat\_2 X2 X0) \wedge (r1\_tarski X1 X0)) \Rightarrow (r1\_relat\_2 X2 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (v1\_relat\_1 X2) \Rightarrow ((r8\_relat\_2 X2 X0) \wedge (r1\_tarski X1 X0)) \Rightarrow (r8\_relat\_2 X2 X1) \quad (2)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow (\forall X1. (r1\_orders\_1 X0 X1) \Leftrightarrow (r1\_relat\_2 X0 X1) \wedge (r8\_relat\_2 X0 X1)) \quad (3)$$

**Theorem 1**

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