

t35_orders_1

(TMJ9jyFtZQbRuBTmXSjW5EEk8HvnecZvjPz)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $r2_orders_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r4_relat_2 : \iota \Rightarrow \iota \Rightarrow o$ 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.

$$\forall X0. \forall X1. \forall X2. (v1_relat_1 X2) \Rightarrow (((r4_relat_2 X2 X0) \wedge (r1_tarski X1 X0)) \Rightarrow (r4_relat_2 X2 X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (v1_relat_1 X2) \Rightarrow (((r1_relat_2 X2 X0) \wedge (r1_tarski X1 X0)) \Rightarrow (r1_relat_2 X2 X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (v1_relat_1 X2) \Rightarrow (((r8_relat_2 X2 X0) \wedge (r1_tarski X1 X0)) \Rightarrow (r8_relat_2 X2 X1)) \quad (3)$$

Assume the following.

$$\forall X0. (v1_relat_1 X0) \Rightarrow (\forall X1. (r2_orders_1 X0 X1) \Leftrightarrow ((r1_relat_2 X0 X1) \wedge ((r8_relat_2 X0 X1) \wedge (r4_relat_2 X0 X1)))) \quad (4)$$

Theorem 1

$$\forall X0. (v1_relat_1 X0) \Rightarrow (\forall X1. \forall X2. ((r2_orders_1 X0 X1) \wedge (r1_tarski X2 X1)) \Rightarrow (r2_orders_1 X0 X2))$$