

t16_relat_1

(TMS2AxzE2u5T9itPMwzVU53F9fNmW6bjwLB)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relat_1 : \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((r1_tarski X0 X1) \wedge (r1_tarski X2 X3)) \Rightarrow (r1_tarski (k2_xboole_0 X0 X2) (k2_xboole_0 X1 X3)) \quad (1)$$

Assume the following.

$$\forall X0. (v1_relat_1 X0) \Rightarrow (\forall X1. (v1_relat_1 X1) \Rightarrow ((r1_tarski X0 X1) \Rightarrow ((r1_tarski (k9_xtuple_0 X0) (k9_xtuple_0 X1)) \wedge (r1_tarski (k10_xtuple_0 X0) (k10_xtuple_0 X1))))) \quad (2)$$

Assume the following.

$$\forall X0. (v1_relat_1 X0) \Rightarrow (k1_relat_1 X0 = k2_xboole_0 (k9_xtuple_0 X0) (k10_xtuple_0 X0)) \quad (3)$$

Theorem 1

$$\forall X0. (v1_relat_1 X0) \Rightarrow (\forall X1. (v1_relat_1 X1) \Rightarrow ((r1_tarski X0 X1) \Rightarrow (r1_tarski (k1_relat_1 X0) (k1_relat_1 X1))))$$