

t33_relat_1 (TMYtwfEJrYRHHYm- NEqKKbvD3ZLD3LceYjg1)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. v1_relat_1 (k3_relat_1 X0 X1) \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (v1_relat_1 X2) \Rightarrow ((X2 = k3_relat_1 \\ X0 X1) \Leftrightarrow (\forall X3. \forall X4. (k4_tarski X3 X4 \in X2) \Leftrightarrow (\exists X5. \\ (k4_tarski X3 X5 \in X0) \wedge (k4_tarski X5 X4 \in X1)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (X2 = k3_xboole_0 X0 X1) \Leftrightarrow (\forall X3. \\ (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0. (v1_relat_1 X0) \Rightarrow (\forall X1. (r1_tarski X0 X1) \Leftrightarrow (\forall X2. \\ \forall X3. (k4_tarski X2 X3 \in X0) \Rightarrow (k4_tarski X2 X3 \in X1))) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \tag{5}$$

Theorem 1

$$\begin{aligned} \forall X0. (v1_relat_1 X0) \Rightarrow (\forall X1. (v1_relat_1 X1) \Rightarrow (\forall X2. \\ (v1_relat_1 X2) \Rightarrow (r1_tarski (k3_relat_1 X0 (k3_xboole_0 X1 X2)) \\ (k3_xboole_0 (k3_relat_1 X0 X1) (k3_relat_1 X0 X2)))))) \end{aligned}$$