

t25\_sysrel (TM-  
MaC4YofDepMSmaECULeMrvnKRNbC9zo6f)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_sysrel : \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_relat\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.v1\_relat\_1 (k4\_relat\_1 X0) \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(X2 = k3\_xboole\_0 X0 X1) \Leftrightarrow (\forall X3. \\ (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(v1\_relat\_1 X0) \Rightarrow (k1\_sysrel X0 = k3\_xboole\_0 X0 (k4\_relat\_1 (k9\_xtuple\_0 X0))) \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(X1 = k9\_xtuple\_0 X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow \\ (\exists X3.k4\_tarski X2 X3 \in X0)) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(v1\_relat\_1 X1) \Rightarrow ((X1 = k4\_relat\_1 X0) \Leftrightarrow ( \\ \forall X2.\forall X3.(k4\_tarski X2 X3 \in X1) \Leftrightarrow ((X2 \in X0) \wedge (X2 = X3)))) \end{aligned} \tag{5}$$

**Theorem 1**

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(v1\_relat\_1 X2) \Rightarrow ((k4\_tarski \\ X0 X1 \in k1\_sysrel X2) \Rightarrow ((X0 \in k9\_xtuple\_0 (k1\_sysrel X2)) \wedge (X0 = X1))) \end{aligned}$$