

## t9\_sysrel

(TMK9am7VpWmHfy8FhUveCapXJSXm9XzWY3M)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (v1\_relat\_1 X3) \Rightarrow \\ & ((r1\_tarski X3 (k2\_zfmisc\_1 X0 X1)) \Rightarrow ((k5\_relat\_1 X3 X2 = k3\_xboole\_0 \\ & X3 (k2\_zfmisc\_1 X2 X1)) \wedge (k6\_relat\_1 X2 X3 = k3\_xboole\_0 X3 (k2\_zfmisc\_1 \\ & X0 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (v1\_relat\_1 X2) \Rightarrow (k5\_relat\_1 \\ & X2 (k2\_xboole\_0 X0 X1) = k2\_xboole\_0 (k5\_relat\_1 X2 X0) (k5\_relat\_1 \\ & X2 X1)) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Rightarrow (k3\_xboole\_0 X0 X1 = X0) \tag{3}$$

### Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. (v1\_relat\_1 \\ & X4) \Rightarrow (((r1\_tarski X4 (k2\_zfmisc\_1 X0 X1)) \wedge (X0 = k2\_xboole\_0 X2 X3)) \Rightarrow \\ & (X4 = k2\_xboole\_0 (k5\_relat\_1 X4 X2) (k5\_relat\_1 X4 X3))) \end{aligned}$$