

t103\_relat\_1  
(TMNay4qAGj3ii1ctiKdbwuRoL8pi8oPfyf8)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k6\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (k2\_zfmisc\_1 (k2\_xboole\_0 X0 \\ & X1) X2 = k2\_xboole\_0 (k2\_zfmisc\_1 X0 X2) (k2\_zfmisc\_1 X1 X2)) \wedge (k2\_zfmisc\_1 \\ & X2 (k2\_xboole\_0 X0 X1) = k2\_xboole\_0 (k2\_zfmisc\_1 X2 X0) (k2\_zfmisc\_1 \\ & X2 X1)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow (k6\_relat\_1 X0 X1 = k3\_xboole\_0 \\ & X1 (k2\_zfmisc\_1 (k9\_xtuple\_0 X1) X0)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. k3\_xboole\_0 X0 (k2\_xboole\_0 \\ & X1 X2) = k2\_xboole\_0 (k3\_xboole\_0 X0 X1) (k3\_xboole\_0 X0 X2) \end{aligned} \tag{3}$$

**Theorem 1**

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (v1\_relat\_1 X2) \Rightarrow (k6\_relat\_1 \\ & (k2\_xboole\_0 X0 X1) X2 = k2\_xboole\_0 (k6\_relat\_1 X0 X2) (k6\_relat\_1 \\ & X1 X2)) \end{aligned}$$