

## t30\_grfunc\_1

(TMRo8W2mB8Y5CW3Na3Fkhr54ihKRAmDu1WX)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(( \\ v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2.((k9\_xtuple\_0 X0 = \\ k9\_xtuple\_0 X1) \wedge (k1\_funct\_1 X0 X2 = k1\_funct\_1 X1 X2)) \Rightarrow (k5\_relat\_1 \\ X0 (k1\_tarski X2) = k5\_relat\_1 X1 (k1\_tarski X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. k2\_tarski X0 X1 = k2\_xboole\_0 (k1\_tarski X0) (k1\_tarski X1) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_relat\_1 X0) \Rightarrow (\forall X1.(v1\_relat\_1 X1) \Rightarrow (\forall X2. \\ \forall X3.((k5\_relat\_1 X0 X2 = k5\_relat\_1 X1 X2) \wedge (k5\_relat\_1 X0 \\ X3 = k5\_relat\_1 X1 X3)) \Rightarrow (k5\_relat\_1 X0 (k2\_xboole\_0 X2 X3) = k5\_relat\_1 \\ X1 (k2\_xboole\_0 X2 X3)))) \end{aligned} \quad (3)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(( \\ v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2. \forall X3.((k9\_xtuple\_0 \\ X0 = k9\_xtuple\_0 X1) \wedge ((k1\_funct\_1 X0 X2 = k1\_funct\_1 X1 X2) \wedge (k1\_funct\_1 \\ X0 X3 = k1\_funct\_1 X1 X3))) \Rightarrow (k5\_relat\_1 X0 (k2\_tarski X2 X3) = k5\_relat\_1 \\ X1 (k2\_tarski X2 X3)))) \end{aligned}$$