

## t35\_grfunc\_1

(TMWAAj2sn1R6LvBn6VKCGF7ncceK2Hi1xNJ)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(( \\ & v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((r1\_tarski X0 X1) \Leftrightarrow ((r1\_tarski \\ & (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X1)) \wedge (\forall X2.(X2 \in k9\_xtuple\_0 \\ & X0) \Rightarrow (k1\_funct\_1 X0 X2 = k1\_funct\_1 X1 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Rightarrow (k3\_xboole\_0 X0 X1 = X0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (X2 = k3\_xboole\_0 X0 X1) \Leftrightarrow (\forall X3. \\ & (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \end{aligned} \quad (3)$$

Assume the following.

$$k1\_xboole\_0 = the (\lambda X0 : \iota. v1\_xboole\_0 X0) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. \forall X2. \\ & ((X1 \in k9\_xtuple\_0 X0) \Rightarrow ((X2 = k1\_funct\_1 X0 X1) \Leftrightarrow (k4\_tarski X1 X2 \in \\ & X0))) \wedge ((\neg X1 \in k9\_xtuple\_0 X0) \Rightarrow ((X2 = k1\_funct\_1 X0 X1) \Leftrightarrow (X2 = k1\_xboole\_0)))) \end{aligned} \quad (5)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 \\ & X2)) \Rightarrow (\forall X3. ((v1\_relat\_1 X3) \wedge (v1\_funct\_1 X3)) \Rightarrow (((r1\_tarski \\ & X2 X3) \wedge ((X0 \in X1) \wedge (r1\_tarski (k3\_xboole\_0 X1) (k9\_xtuple\_0 X3)) \\ & (k9\_xtuple\_0 X2)))) \Rightarrow (k1\_funct\_1 X3 X0 = k1\_funct\_1 X2 X0))) \end{aligned}$$