

t10\_funct\_1  
(TMUskWzqRST2FtSXy8fGahAarh477wVefwt)

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

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(v1\_relat\_1 X2) \Rightarrow ((X2 = k3\_relat\_1 \\ X0 X1) \Leftrightarrow (\forall X3.\forall X4.(k4\_tarski X3 X4 \in X2) \Leftrightarrow (\exists X5. \\ (k4\_tarski X3 X5 \in X0) \wedge (k4\_tarski X5 X4 \in X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.\forall X2. \\ ((X1 \in k9\_xtuple\_0 X0) \Rightarrow ((X2 = k1\_funct\_1 X0 X1) \Leftrightarrow (k4\_tarski X1 X2 \in \\ X0))) \wedge ((\neg X1 \in k9\_xtuple\_0 X0) \Rightarrow ((X2 = k1\_funct\_1 X0 X1) \Leftrightarrow (X2 = k1\_xboole\_0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(X1 = k9\_xtuple\_0 X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow \\ (\exists X3.k4\_tarski X2 X3 \in X0)) \end{aligned} \quad (3)$$

**Theorem 1**

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