

## t27\_funct\_5

(TMKKT285yeaXfuMw5vcuB7kYxmBsdz4JVx1s)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_5 : \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k3\_funct\_5 : \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.(v1\_relat\_1 X0) \Rightarrow (((k9\_xtuple\_0 X0 = k1\_xboole\_0) \vee (k10\_xtuple\_0 X0 = k1\_xboole\_0)) \Rightarrow (X0 = k1\_xboole\_0)) \quad (1)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (k9\_xtuple\_0 (k3\_funct\_5 X0) = k10\_xtuple\_0 (k9\_xtuple\_0 X0)) \quad (2)$$

Assume the following.

$$\forall X0.(\forall X1.\forall X2.\neg k4\_tarski X1 X2 \in X0) \Rightarrow ((k9\_xtuple\_0 X0 = k1\_xboole\_0) \wedge (k10\_xtuple\_0 X0 = k1\_xboole\_0)) \quad (3)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v1\_relat\_1 (k3\_funct\_5 X0)) \wedge (v1\_funct\_1 (k3\_funct\_5 X0))) \quad (4)$$

Assume the following.

$$\forall X0.(v1\_relat\_1 X0) \Leftrightarrow (\forall X1.\neg (X1 \in X0) \wedge (\forall X2.\forall X3.X1 \neq k4\_tarski X2 X3)) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(( \\ v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((X1 = k1\_funct\_5 X0) \Leftrightarrow ((k9\_xtuple\_0 \\ X1 = k9\_xtuple\_0 (k9\_xtuple\_0 X0)) \wedge (\forall X2. \neg (X2 \in k9\_xtuple\_0 \\ (k9\_xtuple\_0 X0)) \wedge (\forall X3. ((v1\_relat\_1 X3) \wedge (v1\_funct\_1 \\ X3)) \Rightarrow (\neg (k1\_funct\_1 X1 X2 = X3) \wedge ((k9\_xtuple\_0 X3 = k10\_xtuple\_0 \\ (k3\_xboole\_0 (k9\_xtuple\_0 X0) (k2\_zfmisc\_1 (k1\_tarski X2) (k10\_xtuple\_0 \\ (k9\_xtuple\_0 X0)))))) \wedge (\forall X4. (X4 \in k9\_xtuple\_0 X3) \Rightarrow (k1\_funct\_1 \\ X3 X4 = k1\_binop\_1 X0 X2 X4)))))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_funct\_1 X0) \Leftrightarrow (\forall X1. \forall X2. \forall X3. \\ ((k4\_tarski X1 X2 \in X0) \wedge (k4\_tarski X1 X3 \in X0)) \Rightarrow (X2 = X3)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (X1 = k9\_xtuple\_0 X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow \\ (\exists X3. k4\_tarski X2 X3 \in X0)) \end{aligned} \quad (8)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((\forall X1. \forall X2. \\ \neg k4\_tarski X1 X2 \in k9\_xtuple\_0 X0) \Rightarrow ((k1\_funct\_5 X0 = k1\_xboole\_0) \wedge \\ (k3\_funct\_5 X0 = k1\_xboole\_0))) \end{aligned}$$