

t51\_funct\_6  
(TMdyxsq3HEYmfabtSt65SasLroXqAiaJbU4)

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Let  $k9\_funct\_6 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1\_xboole\_0 X1) \quad (1)$$

Assume the following.

$$(k9\_xtuple\_0 k1\_xboole\_0 = k1\_xboole\_0) \wedge (k10\_xtuple\_0 k1\_xboole\_0 = k1\_xboole\_0) \quad (2)$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2. \\ & ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow ((X2 = k9\_funct\_6 X0 X1) \Leftrightarrow (( \\ & k9\_xtuple\_0 X2 = k9\_xtuple\_0 X1) \wedge (\forall X3. (X3 \in k9\_xtuple\_0 \\ & X1) \Rightarrow (k1\_funct\_1 X2 X3 = k1\_funct\_2 X0 (k1\_funct\_1 X1 X3)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow (v1\_relat\_1 X0) \quad (5)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow (v1\_funct\_1 X0) \quad (6)$$

**Theorem 1**  $\forall X0. k9\_funct\_6 X0 k1\_xboole\_0 = k1\_xboole\_0.$