

## t32\_funct\_6

(TMUnUo98urN7dGgBVdyweox2LQ8hGRziZ9P)

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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  $k6\_funct\_6 : \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_setfam\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_funct\_6 : \iota \Rightarrow \iota$  be given. Let  $k2\_funct\_6 : \iota \Rightarrow \iota$  be given. Let  $k4\_card\_3 : \iota \Rightarrow \iota$  be given. Let  $k3\_funct\_6 : \iota \Rightarrow \iota$  be given. Let  $k8\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_6 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (r1\_tarski (k1\_setfam\_1 X1) X0) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((k9\_xtuple\_0 \\ (k6\_funct\_6 X0) = k4\_funct\_6 (k2\_funct\_6 X0)) \wedge (r1\_tarski (k10\_xtuple\_0 \\ (k6\_funct\_6 X0)) (k4\_card\_3 (k3\_funct\_6 X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((X0 \in \\ k8\_relat\_1 X1 (k1\_funct\_6 (k10\_xtuple\_0 X1))) \Leftrightarrow ((X0 \in k9\_xtuple\_0 \\ X1) \wedge ((v1\_relat\_1 (k1\_funct\_1 X1 X0)) \wedge (v1\_funct\_1 (k1\_funct\_1 \\ X1 X0))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v1\_relat\_1 (k2\_funct\_6 X0)) \wedge (v1\_funct\_1 (k2\_funct\_6 X0))) \quad (4)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (k4\_funct\_6 X0 = k1\_setfam\_1 (k10\_xtuple\_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (6)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(X1 = k10\_xtuple\_0 X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.(X3 \in k9\_xtuple\_0 X0) \wedge (X2 = k1\_funct\_1 X0 X3)))) \quad (7)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((X1 = k2\_funct\_6 X0) \Leftrightarrow ((k9\_xtuple\_0 X1 = k8\_relat\_1 X0 (k1\_funct\_6 (k10\_xtuple\_0 X0))) \wedge (\forall X2.(X2 \in k8\_relat\_1 X0 (k1\_funct\_6 (k10\_xtuple\_0 X0))) \Rightarrow (k1\_funct\_1 X1 X2 = k9\_xtuple\_0 (k1\_funct\_1 X0 X2))))))) \quad (8)$$

**Theorem 1**

$$\forall X0.\forall X1.((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((X0 \in k9\_xtuple\_0 (k6\_funct\_6 X1)) \Rightarrow (\forall X2.((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow ((X2 \in k10\_xtuple\_0 X1) \Rightarrow (X0 \in k9\_xtuple\_0 X2))))$$