

# t34\_funcop\_1

(TMcT52BwoejSK8BRHPNiDfT6Zfa4y2ho1cw)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k13\_funct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(( \\ v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2.((v1\_relat\_1 X2) \wedge \\ (v1\_funct\_1 X2)) \Rightarrow (k13\_funct\_3 (k3\_relat\_1 X2 X0) (k3\_relat\_1 \\ X2 X1) = k3\_relat\_1 X2 (k13\_funct\_3 X0 X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_relat\_1 X0) \Rightarrow (\forall X1.(v1\_relat\_1 X1) \Rightarrow (\forall X2. \\ (v1\_relat\_1 X2) \Rightarrow (k3\_relat\_1 (k3\_relat\_1 X0 X1) X2 = k3\_relat\_1 \\ X0 (k3\_relat\_1 X1 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. \forall X2. \\ k3\_relat\_1 X0 (k2\_funcop\_1 X1 X2) = k2\_funcop\_1 (k8\_relat\_1 X0 X1) \\ X2) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_relat\_1 X0) \Rightarrow (\forall X1.(v1\_relat\_1 X1) \Rightarrow (k9\_xtuple\_0 \\ (k3\_relat\_1 X0 X1) = k8\_relat\_1 X0 (k9\_xtuple\_0 X1))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1.(((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \wedge (( \\ v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1))) \Rightarrow ((v1\_relat\_1 (k3\_relat\_1 X0 \\ X1)) \wedge (v1\_funct\_1 (k3\_relat\_1 X0 X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1.(v1\_relat\_1 (k2\_funcop\_1 X0 X1)) \wedge (v1\_funct\_1 \\ (k2\_funcop\_1 X0 X1)) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.v1\_relat\_1 (k3\_relat\_1 X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\wedge((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1)))\Rightarrow((v1\_relat\_1 (k13\_funct\_3 X0 X1))\wedge(v1\_funct\_1 (k13\_funct\_3 X0 X1))) \quad (8)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow(\forall X1.\forall X2.((v1\_relat\_1 X2)\wedge(v1\_funct\_1 X2))\Rightarrow(k5\_funcop\_1 X0 X1 X2 = k3\_relat\_1 (k13\_funct\_3 (k2\_funcop\_1 (k9\_xtuple\_0 X2) X1) X2) X0)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.k2\_funcop\_1 X0 X1 = k2\_zfmisc\_1 X0 (k1\_tarski X1) \quad (10)$$

**Theorem 1**

$$\forall X0.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow(\forall X1.((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1))\Rightarrow(\forall X2.((v1\_relat\_1 X2)\wedge(v1\_funct\_1 X2))\Rightarrow(\forall X3.k3\_relat\_1 X1 (k5\_funcop\_1 X2 X3 X0) = k5\_funcop\_1 X2 X3 (k3\_relat\_1 X1 X0))))$$