

# t44\_funct\_1 (TMQVJK- gyVihmTkXny5H83M8XdvJzuM2thU4)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v2\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k2\_funct\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_relat\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.(v1\_relat\_1 X0) \Rightarrow (\forall X1.(v1\_relat\_1 X1) \Rightarrow (k2\_relat\_1 (k3\_relat\_1 X0 X1) = k3\_relat\_1 (k2\_relat\_1 X1) (k2\_relat\_1 X0))) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v2\_funct\_1 X0))) \wedge ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v2\_funct\_1 X1)))) \Rightarrow ((v1\_relat\_1 (k3\_relat\_1 X0 X1)) \wedge (v2\_funct\_1 (k3\_relat\_1 X0 X1))) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \wedge ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1))) \Rightarrow ((v1\_relat\_1 (k3\_relat\_1 X0 X1)) \wedge (v1\_funct\_1 (k3\_relat\_1 X0 X1))) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.v1\_relat\_1 (k3\_relat\_1 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v2\_funct\_1 X0) \Rightarrow (k2\_funct\_1 X0 = k2\_relat\_1 X0)) \quad (5)$$

## Theorem 1

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (((v2\_funct\_1 X0) \wedge (v2\_funct\_1 X1)) \Rightarrow (k2\_funct\_1 (k3\_relat\_1 X0 X1) = k3\_relat\_1 (k2\_funct\_1 X1) (k2\_funct\_1 X0))))$$