

t13\_rfunct\_1 (TMLdb-  
wvmXa2oeEkcLzJtnMDq7ktBDBAF7cB)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k24\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k18\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 X0))) \Rightarrow \\ (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_valued\_0 X1)))) \Rightarrow (\forall X2.(v1\_xcmplx\_0 X2) \Rightarrow (k24\_valued\_1 (k18\_valued\_1 X0 X1) X2 = k18\_valued\_1 (k24\_valued\_1 X0 X2) X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 X0))) \wedge (v1\_xcmplx\_0 X1)) \Rightarrow ((v1\_relat\_1 (k24\_valued\_1 X0 X1)) \wedge ((v1\_funct\_1 (k24\_valued\_1 X0 X1)) \wedge (v1\_valued\_0 (k24\_valued\_1 X0 X1)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 X0))) \wedge (v1\_xcmplx\_0 X1)) \Rightarrow ((v1\_relat\_1 (k24\_valued\_1 X0 X1)) \wedge (v1\_funct\_1 (k24\_valued\_1 X0 X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 X0))) \wedge ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_valued\_0 X1)))) \Rightarrow (k18\_valued\_1 X0 X1 = k18\_valued\_1 X1 X0) \end{aligned} \quad (4)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 X0))) \Rightarrow \\ (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_valued\_0 X1)))) \Rightarrow (\forall X2.(v1\_xcmplx\_0 X2) \Rightarrow (k24\_valued\_1 (k18\_valued\_1 X0 X1) X2 = k18\_valued\_1 X0 (k24\_valued\_1 X1 X2)))) \end{aligned}$$