

t22_rfunct_1

(TMNcMkdM3niMzpFXoYDPf6rjYM5kk5u211v)

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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 $k45_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k30_valued_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & \quad (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 X1)))) \Rightarrow \\ & \quad (\forall X2.((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_valued_0 X2)))) \Rightarrow \\ & \quad (k45_valued_1 X0 (k1_valued_1 X1 X2) = k45_valued_1 (k45_valued_1 X0 X1) X2)) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow (k30_valued_1 (k30_valued_1 X0) = X0) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1.(((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \wedge ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 X1)))) \Rightarrow \\ & \quad ((v1_relat_1 (k45_valued_1 X0 X1)) \wedge ((v1_funct_1 (k45_valued_1 X0 X1)) \wedge (v1_valued_0 (k45_valued_1 X0 X1)))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow ((v1_relat_1 (k30_valued_1 X0)) \wedge ((v1_funct_1 (k30_valued_1 X0)) \wedge (v1_valued_0 (k30_valued_1 X0)))) \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & \quad (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 X1)))) \Rightarrow \\ & \quad (k45_valued_1 X0 X1 = k1_valued_1 X0 (k30_valued_1 X1)) \end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & \quad (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 \\ & \quad X1))) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_valued_0 \\ & \quad X2)))) \Rightarrow (k45_valued_1 X0 (k45_valued_1 X1 X2) = k1_valued_1 (k45_valued_1 \\ & \quad X0 X1) X2))) \end{aligned}$$