

t39_complsp2 (TM- LidRPg577Bq6HYRdHPcAVpcu7vSSj2ZNV)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k30_valued_1 : \iota \Rightarrow \iota$ be given. Let $k45_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 \\ & X1)))) \Rightarrow (k45_valued_1 X0 X1 = k30_valued_1 (k45_valued_1 X1 X0)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & ((v1_relat_1 (k30_valued_1 X0)) \wedge ((v1_funct_1 (k30_valued_1 \\ & X0)) \wedge (v1_valued_0 (k30_valued_1 X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 \\ & X1)))) \Rightarrow (k45_valued_1 X0 X1 = k1_valued_1 X0 (k30_valued_1 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1.(((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 \\ & X0))) \wedge ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 X1)))) \Rightarrow \\ & (k1_valued_1 X0 X1 = k1_valued_1 X1 X0) \end{aligned} \quad (4)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_finseq_1 \\ & X0) \wedge (v1_valued_0 X0)))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 \\ & X1) \wedge ((v1_finseq_1 X1) \wedge (v1_valued_0 X1)))) \Rightarrow ((k3_finseq_1 X0 = \\ & k3_finseq_1 X1) \Rightarrow (k30_valued_1 (k45_valued_1 X0 X1) = k1_valued_1 \\ & (k30_valued_1 X0) X1)) \end{aligned}$$