

t3_valued_1 (TM- SrcH3QPq6v1Q6oSJDmHw22ZHXqsRbDEtX)

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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 $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k13_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow (v1_xcmplx_0 (k1_funct_1 X0 X1)) \quad (1)$$

Assume the following.

$$\forall X0. (v1_xcmplx_0 X0) \Rightarrow (v1_xcmplx_0 (k4_xcmplx_0 X0)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \wedge (v1_xcmplx_0 X1)) \Rightarrow ((v1_relat_1 (k13_valued_1 X0 X1)) \wedge (v1_funct_1 (k13_valued_1 X0 X1))) \quad (3)$$

Assume the following.

$$\forall X0. (v1_xcmplx_0 X0) \Rightarrow (\forall X1. (v1_xcmplx_0 X1) \Rightarrow (k6_xcmplx_0 X0 X1 = k2_xcmplx_0 X0 (k4_xcmplx_0 X1))) \quad (4)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow (\forall X1. (v1_xcmplx_0 X1) \Rightarrow (k13_valued_1 X0 X1 = k7_valued_1 X0 (k4_xcmplx_0 X1))) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & (\forall X1. (v1_xcmplx_0 X1) \Rightarrow (\forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X2 = k7_valued_1 X0 X1) \Leftrightarrow ((k9_xtuple_0 X2 = k9_xtuple_0 X0) \wedge (\forall X3. (X3 \in k9_xtuple_0 X2) \Rightarrow (k1_funct_1 X2 X3 = k2_xcmplx_0 X1 (k1_funct_1 X0 X3))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0)\wedge(v1_xcmplx_0 X1))\Rightarrow(\\ k2_xcmplx_0 X0 X1 = k2_xcmplx_0 X1 X0) \quad (7)$$

Theorem 1

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_valued_0 X0)))\Rightarrow \\ (\forall X1.(v1_xcmplx_0 X1)\Rightarrow((k9_xtuple_0 (k13_valued_1 X0 \\ X1) = k9_xtuple_0 X0)\wedge(\forall X2.(X2 \in k9_xtuple_0 X0)\Rightarrow(k1_funct_1 \\ (k13_valued_1 X0 X1) X2 = k6_xcmplx_0 (k1_funct_1 X0 X2) X1))))$$