

t12_valued_1 (TMFex- PZwhkWtfW43MQXa1dLKtYGNNxk4fc1)

October 27, 2020

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 $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k45_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k30_valued_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & \quad ((k9_xtuple_0 (k30_valued_1 X0) = k9_xtuple_0 X0) \wedge (\forall X1. \\ & \quad k1_funct_1 (k30_valued_1 X0) X1 = k4_xcmplx_0 (k1_funct_1 X0 X1))) \end{aligned} \tag{1}$$

Assume the following.

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

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & \quad (\forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 \\ & \quad X1))) \Rightarrow (k45_valued_1 X0 X1 = k1_valued_1 X0 (k30_valued_1 X1))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_relat_1\ X0) \wedge ((v1_funct_1\ X0) \wedge (v1_valued_0\ X0))) \Rightarrow \\
& \quad (\forall X1.((v1_relat_1\ X1) \wedge ((v1_funct_1\ X1) \wedge (v1_valued_0\ X1))) \Rightarrow (\forall X2.((v1_relat_1\ X2) \wedge (v1_funct_1\ X2)) \Rightarrow ((X2 = k1_valued_1\ X0\ X1) \Leftrightarrow ((k9_xtuple_0\ X2 = k3_xboole_0\ (k9_xtuple_0\ X0)\ (k9_xtuple_0\ X1)) \wedge (\forall X3.(X3 \in k9_xtuple_0\ X2) \Rightarrow (k1_funct_1\ X2\ X3 = k2_xcmplx_0\ (k1_funct_1\ X0\ X3)\ (k1_funct_1\ X1\ X3)))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\forall X0. \forall X1. k3_xboole_0\ X0\ X1 = k3_xboole_0\ X1\ X0 \tag{6}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v1_relat_1\ X0) \wedge ((v1_funct_1\ X0) \wedge (v1_valued_0\ X0))) \Rightarrow \\
& \quad (\forall X1.((v1_relat_1\ X1) \wedge ((v1_funct_1\ X1) \wedge (v1_valued_0\ X1))) \Rightarrow (k9_xtuple_0\ (k45_valued_1\ X0\ X1) = k3_xboole_0\ (k9_xtuple_0\ X0)\ (k9_xtuple_0\ X1)))
\end{aligned}$$