

t5_euclid

(TMXJSMgaxiK8diTFXnZhiHEKhQh6Si9R44V)

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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 $k54_valued_1 : \iota \Rightarrow \iota$ be given. Let $k30_valued_1 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k17_complex1 : \iota \Rightarrow \iota$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k17_complex1 (k4_xcmplx_0 X0) = k17_complex1 X0) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ (\forall X1.k1_funct_1 (k54_valued_1 X0) X1 = k17_complex1 (k1_funct_1 \\ X0 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow (v1_xcmplx_0 (k1_funct_1 X0 X1)) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ ((v1_relat_1 (k54_valued_1 X0)) \wedge ((v1_funct_1 (k54_valued_1 \\ X0)) \wedge (v3_valued_0 (k54_valued_1 X0)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ ((v1_relat_1 (k30_valued_1 X0)) \wedge ((v1_funct_1 (k30_valued_1 \\ X0)) \wedge (v1_valued_0 (k30_valued_1 X0)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\
& \quad (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v3_valued_0 \\
& X1))) \Rightarrow ((X1 = k54_valued_1 X0) \Leftrightarrow ((k9_xtuple_0 X1 = k9_xtuple_0 X0) \wedge \\
& (\forall X2.(X2 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 X1 X2 = k17_complex1 \\
& (k1_funct_1 X0 X2)))))
\end{aligned} \tag{7}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\
& \quad (k54_valued_1 (k30_valued_1 X0) = k54_valued_1 X0)
\end{aligned}$$