

t26_rfunct_1

(TMHguVeLhy9HofXfQ86TjKxK8Y9miEwe6a8)

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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 $k4_rfunct_1 : \iota \Rightarrow \iota$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k5_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & (k9_xtuple_0 (k4_rfunct_1 (k4_rfunct_1 X0)) = k9_xtuple_0 (k5_relat_1 \\ & \quad X0 (k9_xtuple_0 (k4_rfunct_1 X0)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (v1_relat_1 X1) \Rightarrow (k9_xtuple_0 (k5_relat_1 X1 X0) = k3_xboole_0 (k9_xtuple_0 X1) X0) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 \\ & X2)) \Rightarrow ((X0 \in k9_xtuple_0 (k5_relat_1 X2 X1)) \Rightarrow (k1_funct_1 (k5_relat_1 \\ & \quad X2 X1) X0 = k1_funct_1 X2 X0)) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. (v1_xcmplx_0 X0) \Rightarrow (k5_xcmplx_0 (k5_xcmplx_0 X0) = X0) \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 (k5_relat_1 X0 X1)) \wedge (v1_funct_1 (k5_relat_1 X0 X1))) \tag{5}$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow (v1_xcmplx_0 (k1_funct_1 X0 X1)) \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & ((v1_relat_1 (k4_rfunct_1 X0)) \wedge ((v1_funct_1 (k4_rfunct_1 X0)) \wedge \\ & (v1_valued_0 (k4_rfunct_1 X0)))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. (v1_relat_1 X0) \Rightarrow (v1_relat_1 (k5_relat_1 X0 X1)) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & ((v1_relat_1 (k4_rfunct_1 X0)) \wedge (v1_funct_1 (k4_rfunct_1 X0))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (X2 = k3_xboole_0 X0 X1) \Leftrightarrow (\forall X3. \\ & (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & (\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X1 = k4_rfunct_1 \\ & X0) \Leftrightarrow ((k9_xtuple_0 X1 = k6_subset_1 (k9_xtuple_0 X0) (k8_relat_1 \\ & X0 (k1_tarski k6_numbers))) \wedge (\forall X2. (X2 \in k9_xtuple_0 X1) \Rightarrow \\ & (k1_funct_1 X1 X2 = k5_xcmplx_0 (k1_funct_1 X0 X2))))) \end{aligned} \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow \\ & (k4_rfunct_1 (k4_rfunct_1 X0) = k5_relat_1 X0 (k9_xtuple_0 (k4_rfunct_1 \\ & X0))) \end{aligned}$$