

t82_rfunct_1 (TM-
dAmyymnL85gk9wryUhkbqqHWcSwMVL9r5)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v1_comseq_2 : \iota \Rightarrow o$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k54_valued_1 : \iota \Rightarrow \iota$ be given. Let $k30_valued_1 : \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k24_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $k4_rfunct_1 : \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (v1_xreal_0 X1) \Rightarrow (\forall X2. ((v1_relat_1 \\ & X2) \wedge ((v1_funct_1 X2) \wedge (v3_valued_0 X2))) \Rightarrow ((v1_comseq_2 (k5_relat_1 \\ & X2 X0)) \Rightarrow (v1_comseq_2 (k5_relat_1 (k24_valued_1 X2 X1) X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_valued_0 \\ & X1))) \Rightarrow ((k5_relat_1 (k30_valued_1 X1) X0 = k30_valued_1 (k5_relat_1 \\ & X1 X0)) \wedge ((k5_relat_1 (k4_rfunct_1 X1) X0 = k4_rfunct_1 (k5_relat_1 \\ & X1 X0)) \wedge (k5_relat_1 (k54_valued_1 X1) X0 = k54_valued_1 (k5_relat_1 \\ & X1 X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 \\ & (k5_relat_1 X0 X1)) \wedge (v1_funct_1 (k5_relat_1 X0 X1))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \Rightarrow ((\\ & v1_relat_1 (k5_relat_1 X0 X1)) \wedge (v3_valued_0 (k5_relat_1 X0 X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow ((v1_xcmplx_0 (k4_xcmplx_0 X0)) \wedge (v1_xreal_0 (k4_xcmplx_0 X0))) \quad (6)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v3_valued_0 X0) \wedge (v1_comseq_2 X0)))) \Rightarrow ((v1_relat_1 (k54_valued_1 X0)) \wedge ((v1_funct_1 (k54_valued_1 X0)) \wedge ((v3_valued_0 (k54_valued_1 X0)) \wedge (v1_comseq_2 (k54_valued_1 X0)))))) \quad (7)$$

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.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow (k30_valued_1 X0 = k24_valued_1 X0 (k4_xcmplx_0 np_1)) \quad (9)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \Rightarrow ((v1_relat_1 X0) \wedge (v1_valued_0 X0)) \quad (10)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (11)$$

Theorem 1

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v3_valued_0 X1))) \Rightarrow ((v1_comseq_2 (k5_relat_1 X1 X0)) \Rightarrow ((v1_comseq_2 (k5_relat_1 (k54_valued_1 X1) X0)) \wedge (v1_comseq_2 (k5_relat_1 (k30_valued_1 X1) X0))))$$