

t13_funct_9
(TMYb1adR9p8ZrfouerPCP32m3vSLFeotA59)

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Let $v1_xreal_0 : \iota \Rightarrow o$ be given. 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 $v1_funct_9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ 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 $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $v3_xxreal_0 : \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v2_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (v1_relat_1 X2) \Rightarrow ((X0 \in k9_xtuple_0 \\ (k5_relat_1 X2 X1)) \Leftrightarrow ((X0 \in X1) \wedge (X0 \in k9_xtuple_0 X2))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (v1_xreal_0 X0) \Rightarrow (\forall X1. (v1_xreal_0 X1) \Rightarrow (\forall X2. \\ (v1_xreal_0 X2) \Rightarrow ((r1_xxreal_0 X0 (k2_xcmplx_0 X1 X2)) \Leftrightarrow (r1_xxreal_0 \\ (k6_xcmplx_0 X0 X1) X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. (v1_xxreal_0 X0) \Rightarrow (\forall X1. (v1_xxreal_0 X1) \Rightarrow ((\\ (r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 X1 X0)) \Rightarrow (X0 = X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. (v1_xreal_0 X0) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 \\ X1) \wedge (v3_valued_0 X1))) \Rightarrow ((v1_funct_9 X1 X0) \Leftrightarrow ((X0 \neq k6_numbers) \wedge \\ (\forall X2. (v1_xreal_0 X2) \Rightarrow ((X2 \in k9_xtuple_0 X1) \Rightarrow ((k2_xcmplx_0 \\ X2 X0 \in k9_xtuple_0 X1) \wedge ((k6_xcmplx_0 X2 X0 \in k9_xtuple_0 X1) \wedge (k1_funct_1 \\ X1 X2 = k1_funct_1 X1 (k2_xcmplx_0 X2 X0)))))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xreal_0 X2) \Rightarrow ((r1_xxreal_0 (k2_xcmplx_0 X0 X1) X2) \Leftrightarrow (r1_xxreal_0 \\ & X0 (k6_xcmplx_0 X2 X1)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (r1_xxreal_0 X0 X0) \quad (7)$$

Assume the following.

$$\exists X0.(v1_xxreal_0 X0) \wedge (v3_xxreal_0 X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (v1_xreal_0 (k6_xcmplx_0 X0 X1)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (v1_xreal_0 (k2_xcmplx_0 X0 X1)) \quad (10)$$

Assume the following.

$$v3_membered\ k1_numbers \quad (11)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Leftrightarrow (X0 \in k1_numbers) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 \\ & X1)) \Rightarrow ((v1_funct_9 X1 X0) \Leftrightarrow ((X0 \neq k6_numbers) \wedge (\forall X2.(v1_xreal_0 \\ & X2) \Rightarrow (((X2 \in k9_xtuple_0 X1) \Rightarrow (k2_xcmplx_0 X2 X0 \in k9_xtuple_0 X1)) \wedge \\ & (((k2_xcmplx_0 X2 X0 \in k9_xtuple_0 X1) \Rightarrow (X2 \in k9_xtuple_0 X1)) \wedge \\ & (X2 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 X1 X2 = k1_funct_1 X1 (k2_xcmplx_0 \\ & X2 X0)))))))))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0) \wedge (v1_xcmplx_0 X1)) \Rightarrow (k2_xcmplx_0 X0 X1 = k2_xcmplx_0 X1 X0) \quad (14)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xxreal_0 X0) \quad (15)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(v2_membered\ X0) \quad (16)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k1_numbers)\Rightarrow(v1_xcmplx_0\ X0) \quad (17)$$

Assume the following.

$$\forall X0.(v2_membered\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow(v1_xreal_0\ X1)) \quad (18)$$

Theorem 1

$$\begin{aligned} &\forall X0.(v1_xreal_0\ X0)\Rightarrow(\forall X1.((v1_relat_1\ X1)\wedge((v1_funct_1 \\ &X1)\wedge(v3_valued_0\ X1)))\Rightarrow((v1_funct_9\ X1\ X0)\Rightarrow(\forall X2.(v1_xreal_0 \\ &X2)\Rightarrow((X2 \in k9_xtuple_0\ X1)\Rightarrow(k1_funct_1\ X1\ X2 = k1_funct_1\ X1\ (k6_xcmplx_0 \\ &X2\ X0)))))) \end{aligned}$$