

t35_funct_9
(TMF3xi4n9PZvs9QeReANh664rSA5ccfxrwP)

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Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $v1_funct_9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k26_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19_sin_cos : \iota$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $k32_sin_cos : \iota$ 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 $k7_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k24_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k31_sin_cos : \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v3_valued_0 X2)))) \Rightarrow ((v1_funct_9 \\ & X2 X0) \Rightarrow (v1_funct_9 (k7_valued_1 X2 X1) X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v3_valued_0 X2)))) \Rightarrow ((v1_funct_9 \\ & X2 X0) \Rightarrow (v1_funct_9 (k24_valued_1 X2 X1) X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v1_int_1 X0)) \Rightarrow (v1_funct_9 k19_sin_cos (k8_real_1 (k8_real_1 np_2 k32_sin_cos) X0)) \quad (3)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v3_membered\ X1)\wedge \\ & (((v1_funct_1\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ & X0\ X1))))\wedge(v1_xreal_0\ X3)))\Rightarrow(k9_valued_1\ X0\ X1\ X2\ X3 = k7_valued_1 \\ & X2\ X3) \end{aligned} \tag{5}$$

Assume the following.

$$k32_sin_cos = k31_sin_cos \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v3_membered\ X1)\wedge \\ & (((v1_funct_1\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ & X0\ X1))))\wedge(v1_xreal_0\ X3)))\Rightarrow(k26_valued_1\ X0\ X1\ X2\ X3 = k24_valued_1 \\ & X2\ X3) \end{aligned} \tag{7}$$

Assume the following.

$$v3_membered\ k1_numbers \tag{8}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1_subset_1\ X0\ k1_numbers)\wedge(v1_xreal_0 \\ & X1))\Rightarrow(m1_subset_1\ (k8_real_1\ X0\ X1)\ k1_numbers) \end{aligned} \tag{9}$$

Assume the following.

$$v1_xreal_0\ k31_sin_cos \tag{10}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v3_membered\ X1)\wedge \\ & (((v1_funct_1\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ & X0\ X1))))\wedge(v1_xreal_0\ X3)))\Rightarrow((v1_funct_1\ (k26_valued_1\ X0\ X1 \\ & X2\ X3))\wedge(m1_subset_1\ (k26_valued_1\ X0\ X1\ X2\ X3)\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ & X0\ k1_numbers)))) \end{aligned} \tag{11}$$

Assume the following.

$$\begin{aligned} & (v1_funct_1\ k19_sin_cos)\wedge((v1_funct_2\ k19_sin_cos\ k1_numbers \\ & k1_numbers)\wedge(m1_subset_1\ k19_sin_cos\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ & k1_numbers\ k1_numbers)))) \end{aligned} \tag{12}$$

Assume the following.

$$\forall X0.(v1_int_1\ X0)\Rightarrow(v1_xreal_0\ X0) \tag{13}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1 \\ & (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v1_relat_1\ X2) \end{aligned} \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.(v3_membered\ X1)\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v3_valued_0\ X2)) \quad (15)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow(v1_xreal_0\ X1)) \quad (16)$$

Theorem 1

$$\forall X0.(v1_xreal_0\ X0)\Rightarrow(\forall X1.(v1_xreal_0\ X1)\Rightarrow(\forall X2.((\neg v1_xboole_0\ X2)\wedge(v1_int_1\ X2))\Rightarrow(v1_funct_9\ (k9_valued_1\ k1_numbers\ k1_numbers\ (k26_valued_1\ k1_numbers\ k1_numbers\ k19_sin_cos\ X1)\ X0)\ (k8_real_1\ (k8_real_1\ np_2\ k32_sin_cos)\ X2))))$$