

t28_integra8
(TMWwyNg24fDJqXhwqkPkAcj4mxFr4ygec9p)

October 27, 2020

Let $k2_fdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19_sin_cos : \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k32_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_sin_cos : \iota$ be given. 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 $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k30_valued_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r2_fdiff_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_fdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_valued_0 : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

$$\forall X0. \forall X1. \neg (v1_xboole_0 X0) \wedge ((X0 \neq X1) \wedge (v1_xboole_0 X1)) \quad (2)$$

Assume the following.

$$\forall X0. (v1_xreal_0 X0) \Rightarrow ((r2_fdiff_1 k19_sin_cos k1_numbers) \wedge (k1_fdiff_1 k19_sin_cos X0 = k1_real_1 (k1_seq_1 k16_sin_cos X0))) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v3_membered\ X1)\wedge((v1_funct_1\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))))\Rightarrow(k32_valued_1\ X0\ X1\ X2 = k30_valued_1\ X2) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge(v3_valued_0\ X0)))\Rightarrow(k1_seq_1\ X0\ X1 = k1_funct_1\ X0\ X1) \quad (5)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k1_numbers)\Rightarrow(k1_real_1\ X0 = k4_xcmplx_0\ X0) \quad (6)$$

Assume the following.

$$\exists X0.(m1_subset_1\ X0\ (k1_zfmisc_1\ (k2_zfmisc_1\ k1_numbers\ k1_numbers)))\wedge((v1_relat_1\ X0)\wedge((v4_relat_1\ X0\ k1_numbers)\wedge((v5_relat_1\ X0\ k1_numbers)\wedge((v1_funct_1\ X0)\wedge((v1_xboole_0\ X0)\wedge((v1_valued_0\ X0)\wedge((v2_valued_0\ X0)\wedge(v3_valued_0\ X0)))))))) \quad (7)$$

Assume the following.

$$\exists X0.(m1_subset_1\ X0\ k1_numbers)\wedge((v1_xxreal_0\ X0)\wedge((v1_xcmplx_0\ X0)\wedge((v1_xreal_0\ X0)\wedge(v1_int_1\ X0)))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v1_xboole_0\ X1)\wedge(v3_membered\ X1))\wedge((v1_funct_1\ X2)\wedge((v1_funct_2\ X2\ X0\ X1)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))))))\Rightarrow((v1_funct_1\ (k30_valued_1\ X2))\wedge(v1_partfun1\ (k30_valued_1\ X2)\ X0)) \quad (9)$$

Assume the following.

$$\forall X0.((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge(v3_valued_0\ X0)))\Rightarrow((v1_relat_1\ (k30_valued_1\ X0))\wedge((v1_funct_1\ (k30_valued_1\ X0))\wedge((v1_valued_0\ (k30_valued_1\ X0))\wedge(v3_valued_0\ (k30_valued_1\ X0)))))) \quad (10)$$

Assume the following.

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

Assume the following.

$$v1_xboole_0\ k1_xboole_0 \quad (12)$$

Assume the following.

$$\neg v1_xboole_0\ k1_numbers \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v3_membered\ X1)\wedge((v1_funct_1 \\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))))\Rightarrow((v1_funct_1 \\ (k32_valued_1\ X0\ X1\ X2))\wedge(m1_subset_1\ (k32_valued_1\ X0\ X1\ X2)\ (\\ k1_zfmisc_1\ (k2_zfmisc_1\ X0\ k1_numbers)))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge(v3_valued_0 \\ X0)))\Rightarrow(m1_subset_1\ (k1_seq_1\ X0\ X1)\ k1_numbers) \quad (15)$$

Assume the following.

$$\begin{aligned} (v1_funct_1\ k19_sin_cos)\wedge((v1_funct_2\ k19_sin_cos\ k1_numbers \\ k1_numbers)\wedge(m1_subset_1\ k19_sin_cos\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ k1_numbers\ k1_numbers)))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} (v1_funct_1\ k16_sin_cos)\wedge((v1_funct_2\ k16_sin_cos\ k1_numbers \\ k1_numbers)\wedge(m1_subset_1\ k16_sin_cos\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ k1_numbers\ k1_numbers)))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_funct_1\ X0)\wedge(m1_subset_1\ X0\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ k1_numbers\ k1_numbers))))\Rightarrow(\forall X1.(r2_fdiff_1\ X0\ X1)\Rightarrow(\forall X2. \\ ((v1_funct_1\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ k1_numbers \\ k1_numbers))))\Rightarrow((X2 = k2_fdiff_1\ X0\ X1)\Leftrightarrow((k1_relset_1\ k1_numbers \\ X2 = X1)\wedge(\forall X3.(m1_subset_1\ X3\ k1_numbers)\Rightarrow((X3 \in X1)\Rightarrow(k1_seq_1 \\ X2\ X3 = k1_fdiff_1\ X0\ X3)))))) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1 \\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow(((X1\neq k1_xboole_0)\Rightarrow((v1_funct_2\ X2\ X0 \\ X1)\Leftrightarrow(X0 = k1_relset_1\ X0\ X2)))\wedge((X1 = k1_xboole_0)\Rightarrow((v1_funct_2 \\ X2\ X0\ X1)\Leftrightarrow(X2 = k1_xboole_0)))) \end{aligned} \quad (19)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0\ X0)\wedge(\neg v1_xboole_0\ X1))\Rightarrow \\ (\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow \\ (((v1_funct_1\ X2)\wedge(v1_funct_2\ X2\ X0\ X1))\Rightarrow((v1_funct_1\ X2)\wedge((\\ \neg v1_xboole_0\ X2)\wedge(v1_funct_2\ X2\ X0\ X1)))))) \end{aligned} \quad (20)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(v1_membered\ X0) \quad (21)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \quad (23)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v1_partfun1 X2 X0) \Rightarrow (v1_funct_2 X2 X0 X1)) \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.(v3_membered X1) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v3_valued_0 X2)) \quad (25)$$

Assume the following.

$$\forall X0.\forall X1.(v1_membered X1) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_valued_0 X2)) \quad (26)$$

Theorem 1

$$k2_fdiff_1 k19_sin_cos k1_numbers = k32_valued_1 k1_numbers k1_numbers k16_sin_cos$$