

t23_hfdiff_1 (TMaE-
JGNC1oeQDYmfm648iHGRdZLhnCX3E3D)

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Let $v3_rcomp_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_fdiff_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_reset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_taylor_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k2_fdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $np_0 : \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$m1_subset_1 k1_xboole_0 k4_ordinal1 \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v3_rcomp_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 k1_numbers))) \Rightarrow \\ & (\forall X1.((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k1_numbers k1_numbers)))) \Rightarrow ((r2_fdiff_1 X1 X0) \Rightarrow ((r2_fdiff_1 \\ & (k2_partfun1 k1_numbers k1_numbers X1 X0) X0) \wedge (r2_reset_1 k1_numbers \\ & k1_numbers (k2_fdiff_1 X1 X0) (k2_fdiff_1 (k2_partfun1 k1_numbers \\ & k1_numbers X1 X0) X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$v1_xboole_0 np_0 \quad (5)$$

Assume the following.

$$k2_xcmplx_0 \text{ } np_1 \text{ } np_0 = np_1 \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X2 \\ & (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (7)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (8)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1_funct_1 X2) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow (k2_partfun1 \\ & X0 X1 X2 X3 = k5_relat_1 X2 X3) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7_ordinal1 X0) \wedge (m1_subset_1 X1 k5_numbers)) \Rightarrow \\ & (k1_nat_1 X0 X1 = k2_xcmplx_0 X0 X1) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1_funct_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 \\ & (k2_zfmisc_1 k1_numbers k1_numbers)))) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & k1_numbers))) \Rightarrow ((v1_funct_1 (k5_taylor_1 X0 X1)) \wedge ((v1_funct_2 \\ & (k5_taylor_1 X0 X1) k5_numbers (k4_partfun1 k1_numbers k1_numbers)) \wedge \\ & (m1_subset_1 (k5_taylor_1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\ & (k4_partfun1 k1_numbers k1_numbers))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1_funct_1 X2) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow ((v1_funct_1 \\ & (k2_partfun1 X0 X1 X2 X3)) \wedge (m1_subset_1 (k2_partfun1 X0 X1 X2 X3) \\ & (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_funct_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 \\ & (k2_zfmisc_1 k1_numbers k1_numbers)))) \Rightarrow ((v1_funct_1 (k2_fdiff_1 \\ & X0 X1)) \wedge (m1_subset_1 (k2_fdiff_1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 \\ & k1_numbers k1_numbers)))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1 X2)\wedge \\ & ((v1_funct_2 X2 k5_numbers (k4_partfun1 X0 X1))\wedge(m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 X1))))))\wedge \\ & (v7_ordinal1 X3))\Rightarrow((v1_funct_1 (k1_seqfunc X0 X1 X2 X3))\wedge(m1_subset_1 \\ & (k1_seqfunc X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.(((v1_funct_1 X0)\wedge(m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k1_numbers k1_numbers))))\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ & k1_numbers))\Rightarrow(\forall X2.(((v1_funct_1 X2)\wedge((v1_funct_2 X2 k5_numbers \\ & (k4_partfun1 k1_numbers k1_numbers))\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 k5_numbers (k4_partfun1 k1_numbers k1_numbers))))))\Rightarrow \\ & ((X2 = k5_taylor_1 X0 X1)\Leftrightarrow((r2_relset_1 k1_numbers k1_numbers \\ & (k1_seqfunc k1_numbers k1_numbers X2 k6_numbers) (k2_partfun1 \\ & k1_numbers k1_numbers X0 X1))\wedge(\forall X3.(v7_ordinal1 X3)\Rightarrow(\\ & r2_relset_1 k1_numbers k1_numbers (k1_seqfunc k1_numbers k1_numbers \\ & X2 (k1_nat_1 X3 np_1)) (k2_fdiff_1 (k1_seqfunc k1_numbers k1_numbers \\ & X2 X3) X1)))))) \end{aligned} \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0)\wedge(m1_subset_1 X1 k5_numbers))\Rightarrow (k1_nat_1 X0 X1 = k1_nat_1 X1 X0) \quad (17)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (18)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(v7_ordinal1 X0) \quad (19)$$

Theorem 1

$$\begin{aligned} & \forall X0.(((v3_rcomp_1 X0)\wedge(m1_subset_1 X0 (k1_zfmisc_1 k1_numbers))\Rightarrow \\ & (\forall X1.(((v1_funct_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k1_numbers k1_numbers))))\Rightarrow((r2_fdiff_1 X1 X0)\Rightarrow(r2_relset_1 \\ & k1_numbers k1_numbers (k1_seqfunc k1_numbers k1_numbers (k5_taylor_1 \\ & X1 X0) np_1) (k2_fdiff_1 X1 X0)))) \end{aligned}$$