

l3_cfdiff_2 (TMJ- gRJ56gtpxdTuT62ZWcEVHpnLe7KdyUYT)

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Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k1_numbers : \iota$ 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 $k2_numbers : \iota$ be given. Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_fdiff_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $v2_relat_1 : \iota \Rightarrow o$ be given. Let $v1_cfdiff_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k2_seq_2 : \iota \Rightarrow \iota$ be given. Let $k1_seq_2 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ 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 $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $v2_valued_0 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v2_comseq_2 : \iota \Rightarrow o$ be given. Let $k3_comseq_2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg(v1_xboole_0 X0) \wedge ((X0 \neq X1) \wedge (v1_xboole_0 X1)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & ((\neg v1_xboole_0 X1) \wedge (\neg v1_xboole_0 X3) \wedge (((v1_funct_1 X4) \wedge ((v1_funct_2 X4 X0 X1) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \wedge ((v1_funct_1 X5) \wedge ((v1_funct_2 X5 X2 X3) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 X2 X3)))))) \Rightarrow ((r1_funct_2 X0 X1 X2 X3 X4 X5) \Leftrightarrow (X4 = X5)) \end{aligned} \quad (2)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (3)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow \\ & (k2_seq_2 X0 = k1_seq_2 X0) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \exists X0.(m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\ & k1_numbers))) \wedge ((v1_relat_1 X0) \wedge ((v2_relat_1 X0) \wedge ((v4_relat_1 \\ & X0 k5_numbers) \wedge ((v5_relat_1 X0 k1_numbers) \wedge ((v1_funct_1 X0) \wedge \\ & ((\neg v1_xboole_0 X0) \wedge ((v1_partfun1 X0 k5_numbers) \wedge ((v1_funct_2 \\ & X0 k5_numbers k1_numbers) \wedge ((v1_valued_0 X0) \wedge ((v2_valued_0 X0) \wedge \\ & ((v3_valued_0 X0) \wedge (v1_fdiff_1 X0 k6_numbers))))))))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow \\ & (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers k2_numbers) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\ & (\forall X2.(v1_xreal_0 X2) \Rightarrow (((r1_funct_2 k5_numbers k1_numbers \\ & k5_numbers k2_numbers X0 X1) \wedge ((v2_comseq_2 X0) \wedge (k2_seq_2 X0 = \\ & X2))) \Rightarrow (k3_comseq_2 X1 = X2)))) \end{aligned} \quad (7)$$

Assume the following.

$$\neg v1_xboole_0 k2_numbers \quad (8)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (9)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge \\ & ((v1_fdiff_1 X0 k6_numbers) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k5_numbers k1_numbers)))))) \Rightarrow ((v1_xboole_0 (k1_seq_2 X0)) \wedge \\ & v1_xreal_0 (k1_seq_2 X0)) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow \\ & (v1_xreal_0 (k1_seq_2 X0)) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 \\ X1 k5_numbers k1_numbers) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ k5_numbers k1_numbers)))))) \Rightarrow ((v1_fdiff_1 X1 X0) \Leftrightarrow ((v2_comseq_2 \\ X1) \wedge (k2_seq_2 X1 = X0)))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 \\ X1 k5_numbers k2_numbers) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ k5_numbers k2_numbers)))))) \Rightarrow ((v1_cfdiff_1 X1 X0) \Leftrightarrow ((v2_comseq_2 \\ X1) \wedge (k3_comseq_2 X1 = X0)))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\ k1_numbers))) \Rightarrow (((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers \\ k1_numbers) \wedge (v1_fdiff_1 X0 k6_numbers))) \Rightarrow ((v1_funct_1 X0) \wedge \\ ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge (v2_comseq_2 X0)))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\ k2_numbers))) \Rightarrow (((v2_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_funct_2 \\ X0 k5_numbers k2_numbers) \wedge (v1_cfdiff_1 X0 k6_numbers)))) \Rightarrow ((\\ v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k2_numbers) \wedge (v2_comseq_2 \\ X0)))) \end{aligned} \quad (16)$$

Theorem 1

$$\begin{aligned} \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge \\ (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow \\ (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers k2_numbers) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k2_numbers)))))) \Rightarrow \\ ((r1_funct_2 k5_numbers k1_numbers k5_numbers k2_numbers X0 X1) \Rightarrow \\ (((v1_fdiff_1 X0 k6_numbers) \wedge (v2_relat_1 X0)) \Rightarrow ((v1_cfdiff_1 \\ X1 k6_numbers) \wedge (v2_relat_1 X1))) \wedge (((v1_cfdiff_1 X1 k6_numbers) \wedge \\ (v2_relat_1 X1)) \Rightarrow ((v1_fdiff_1 X0 k6_numbers) \wedge (v2_relat_1 X0)))))) \end{aligned}$$