

t31_pdiff_4

(TMZmTA1CcHHGcb7eWwrczPhTqtNehQdDrzb)

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Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ be given. Let $k1_numbers : \iota$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $r1_fcont_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_pdiff_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_fdiff_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k1_reset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_rsum_1 : \iota \Rightarrow \iota$ be given. Let $v2_xreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\ & \quad (k1_euclid np_3) k1_numbers)))) \Rightarrow (\forall X1.(m2_finseq_2 X1 \\ & \quad k1_numbers (k1_euclid np_3)) \Rightarrow ((\exists X2.(m1_subset_1 X2 k1_numbers) \wedge \\ & \quad (\exists X3.(m1_subset_1 X3 k1_numbers) \wedge (\exists X4.(m1_subset_1 \\ & \quad X4 k1_numbers) \wedge ((X1 = k11_finseq_1 X2 X3 X4) \wedge (r1_fdiff_1 (k1_pdiff_2 \\ & \quad np_3 np_1 X0 X1) X2)))))) \Leftrightarrow (r3_pdiff_1 np_3 np_1 X0 X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\ & \quad k1_numbers k1_numbers)))) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_fdiff_1 \\ & \quad X0 X1) \Rightarrow (r1_fcont_1 X0 X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & (k1_reset_1 (k1_euclid np_3) (k1_pdiff_1 np_1 np_3) = k1_euclid \\ & \quad np_3) \wedge ((k1_rsum_1 (k1_pdiff_1 np_1 np_3) = k1_numbers) \wedge (\\ & \quad \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & \quad X1 k1_numbers) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_numbers) \Rightarrow (k1_seq_1 \\ & \quad (k1_pdiff_1 np_1 np_3) (k11_finseq_1 X0 X1 X2) = X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & ((v2_xreal_0 \ np_3) \wedge (m2_subset_1 \ np_3 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_3 \ k5_numbers) \wedge (m1_subset_1 \ np_3 \ k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & ((v2_xreal_0 \ np_1) \wedge (m2_subset_1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_1 \ k5_numbers) \wedge (m1_subset_1 \ np_1 \ k1_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1_finseq_2 \ X1 \ X0) \Rightarrow (\forall X2. (m2_finseq_2 \\ & \quad X2 \ X0 \ X1) \Leftrightarrow (m1_subset_1 \ X2 \ X1)) \end{aligned} \quad (6)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 \ X0 \\ & \quad k5_numbers) \wedge ((m1_subset_1 \ X1 \ k5_numbers) \wedge ((v1_funct_1 \ X2) \wedge \\ & (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k1_euclid \ X0) \ k1_numbers)))) \wedge \\ & \quad (m1_subset_1 \ X3 \ (k1_euclid \ X0)))) \Rightarrow ((v1_funct_1 \ (k1_pdfiff_2 \\ & \quad X0 \ X1 \ X2 \ X3)) \wedge (m1_subset_1 \ (k1_pdfiff_2 \ X0 \ X1 \ X2 \ X3) \ (k1_zfmisc_1 \\ & \quad (k2_zfmisc_1 \ k1_numbers \ k1_numbers)))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0. (v7_ordinal1 \ X0) \Rightarrow (m1_finseq_2 \ (k1_euclid \ X0) \ k1_numbers) \quad (9)$$

Assume the following.

$$\forall X0. (m1_subset_1 \ X0 \ k4_ordinal1) \Rightarrow (v7_ordinal1 \ X0) \quad (10)$$

Assume the following.

$$\forall X0. (m1_subset_1 \ X0 \ k1_numbers) \Rightarrow (v1_xreal_0 \ X0) \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((v1_funct_1 \ X0) \wedge (m1_subset_1 \ X0 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \\ & \quad (k1_euclid \ np_3) \ k1_numbers)))) \Rightarrow (\forall X1. (m2_finseq_2 \ X1 \\ & \quad k1_numbers \ (k1_euclid \ np_3)) \Rightarrow ((r3_pdfiff_1 \ np_3 \ np_1 \ X0 \ X1) \Rightarrow \\ & \quad (r1_fcont_1 \ (k1_pdfiff_2 \ np_3 \ np_1 \ X0 \ X1) \ (k1_seq_1 \ (k1_pdfiff_1 \\ & \quad \quad np_1 \ np_3) \ X1)))) \end{aligned}$$