

t39_pdiff_4

(TMSF3tptycRxp8cEDM9x3yFWiUquJg87RyWy)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $np_2 : \iota$ be given. Let $k4_pdiff_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k47_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k26_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k11_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m2_finseq_2 \\
 & \quad X1 k1_numbers (k1_euclid np_3)) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge \\
 (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid np_3) k1_numbers)))) \Rightarrow \\
 & \quad (((r3_pdiff_1 np_3 np_1 X2 X1) \wedge ((r3_pdiff_1 np_3 np_2 X2 X1) \wedge \\
 & \quad (r3_pdiff_1 np_3 np_3 X2 X1))) \Rightarrow (k4_pdiff_4 (k26_valued_1 (k1_euclid \\
 & \quad np_3) k1_numbers X2 X0) X1 = k9_euclid np_3 (k4_pdiff_4 X2 X1) X0))) \\
 & \hspace{15em} (1)
 \end{aligned}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.(m2_finseq_2 X0 k1_numbers (k1_euclid np_3)) \Rightarrow (\forall X1. \\
 & \quad ((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (\\
 & \quad \quad k1_euclid np_3) k1_numbers)))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge \\
 (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid np_3) k1_numbers)))) \Rightarrow \\
 & \quad (((r3_pdiff_1 np_3 np_1 X1 X0) \wedge ((r3_pdiff_1 np_3 np_2 X1 X0) \wedge \\
 & \quad ((r3_pdiff_1 np_3 np_3 X1 X0) \wedge ((r3_pdiff_1 np_3 np_1 X2 X0) \wedge \\
 & \quad ((r3_pdiff_1 np_3 np_2 X2 X0) \wedge (r3_pdiff_1 np_3 np_3 X2 X0)))))) \Rightarrow \\
 & \quad (k4_pdiff_4 (k47_valued_1 (k1_euclid np_3) k1_numbers k1_numbers \\
 & \quad X1 X2) X0 = k8_euclid np_3 (k4_pdiff_4 X1 X0) (k4_pdiff_4 X2 X0)))) \\
 & \hspace{15em} (2)
 \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\ (\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 k1_numbers) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 \\ X3 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid X0) k1_numbers)))) \Rightarrow (\\ \forall X4.(m2_finseq_2 X4 k1_numbers (k1_euclid X0)) \Rightarrow ((r3_pdiff_1 \\ X0 X1 X3 X4) \Rightarrow ((r3_pdiff_1 X0 X1 (k26_valued_1 (k1_euclid X0) k1_numbers \\ X3 X2) X4) \wedge (k11_pdiff_1 X0 X1 (k26_valued_1 (k1_euclid X0) k1_numbers \\ X3 X2) X4 = k8_real_1 X2 (k11_pdiff_1 X0 X1 X3 X4))))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} ((v2_xxreal_0 np_3) \wedge (m2_subset_1 np_3 k1_numbers k5_numbers)) \wedge \\ ((m1_subset_1 np_3 k5_numbers) \wedge (m1_subset_1 np_3 k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\neg v1_xboole_0 np_3 \quad (5)$$

Assume the following.

$$\begin{aligned} ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\ ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (7)$$

Assume the following.

$$v3_membered k1_numbers \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.((v3_membered X1) \wedge \\ (((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 X1)))) \wedge (v1_xreal_0 X3))) \Rightarrow ((v1_funct_1 (k26_valued_1 X0 X1 \\ X2 X3)) \wedge (m1_subset_1 (k26_valued_1 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 k1_numbers)))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.(v3_membered X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow (v1_xreal_0 X1)) \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k1_numbers) \Rightarrow (\forall X2.(m2_finseq_2 X2 k1_numbers (k1_euclid \\ & np_3)) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k1_euclid np_3) k1_numbers)))) \Rightarrow (\forall X4.(\\ & (v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid \\ & np_3) k1_numbers)))) \Rightarrow (((r3_pdfiff_1 np_3 np_1 X3 X2) \wedge ((r3_pdfiff_1 \\ & np_3 np_2 X3 X2) \wedge ((r3_pdfiff_1 np_3 np_3 X3 X2) \wedge ((r3_pdfiff_1 \\ & np_3 np_1 X4 X2) \wedge ((r3_pdfiff_1 np_3 np_2 X4 X2) \wedge (r3_pdfiff_1 \\ & np_3 np_3 X4 X2)))))) \Rightarrow (k4_pdfiff_4 (k47_valued_1 (k1_euclid \\ & np_3) k1_numbers k1_numbers (k26_valued_1 (k1_euclid np_3) \\ & k1_numbers X3 X0) (k26_valued_1 (k1_euclid np_3) k1_numbers X4 \\ & X1)) X2 = k8_euclid np_3 (k9_euclid np_3 (k4_pdfiff_4 X3 X2) X0) \\ & (k9_euclid np_3 (k4_pdfiff_4 X4 X2) X1)))))) \end{aligned}$$