

t64_pdiff_5 (TMN-
pQQJnYVDg4UKs4MX185EGAqPQA7w7xFH)

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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 $r7_pdiff_5 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k26_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_pdiff_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_pdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_pdiff_5 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m2_finseq_2 X0 k1_numbers (k1_euclid np_3)) \Rightarrow (\forall X1. \\ & ((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (\\ & k1_euclid np_3) k1_numbers)))) \Rightarrow ((r7_pdiff_5 X1 X0) \Rightarrow (k7_pdiff_5 \\ & X1 X0 = k11_pdiff_1 np_3 np_1 (k1_pdiff_3 np_3 np_3 X1) X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\ & (\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 k1_numbers) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 (k1_euclid X0) k1_numbers)))) \Rightarrow (\\ & \forall X4.(m2_finseq_2 X4 k1_numbers (k1_euclid X0)) \Rightarrow ((r3_pdiff_1 \\ & X0 X1 X3 X4) \Rightarrow ((r3_pdiff_1 X0 X1 (k26_valued_1 (k1_euclid X0) k1_numbers \\ & X3 X2) X4) \wedge (k11_pdiff_1 X0 X1 (k26_valued_1 (k1_euclid X0) k1_numbers \\ & X3 X2) X4 = k8_real_1 X2 (k11_pdiff_1 X0 X1 X3 X4))))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_finseq_2 X0 k1_numbers (k1_euclid np_3)) \Rightarrow (\forall X1. \\ & ((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (\\ & k1_euclid np_3) k1_numbers)))) \Rightarrow ((r7_pdiff_5 X1 X0) \Leftrightarrow (r3_pdiff_1 \\ & np_3 np_1 (k1_pdiff_3 np_3 np_3 X1) X0))) \end{aligned} \quad (3)$$

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.

$$\begin{aligned} & ((v2_xxreal_0 \ np_1) \wedge (m2_subset_1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_1 \ k5_numbers) \wedge (m1_subset_1 \ np_1 \ k1_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((m1_subset_1 \ X0 \ k5_numbers) \wedge \\ & (((\neg v1_xboole_0 \ X1) \wedge (m1_subset_1 \ X1 \ k5_numbers)) \wedge ((v1_funct_1 \\ & \ X2) \wedge (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k1_euclid \ X1) \\ & k1_numbers)))))) \Rightarrow ((v1_funct_1 \ (k1_pdiff_3 \ X0 \ X1 \ X2)) \wedge ((v1_funct_2 \\ & (k1_pdiff_3 \ X0 \ X1 \ X2) \ (k1_euclid \ X1) \ k1_numbers) \wedge (m1_subset_1 \\ & (k1_pdiff_3 \ X0 \ X1 \ X2) \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k1_euclid \ X1) \\ & k1_numbers)))))) \end{aligned} \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0. (m1_subset_1 \ X0 \ k1_numbers) \Rightarrow (\forall X1. (m2_finseq_2 \\ & \ X1 \ k1_numbers \ (k1_euclid \ np_3)) \Rightarrow (\forall X2. ((v1_funct_1 \ X2) \wedge \\ & (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k1_euclid \ np_3) \ k1_numbers)))))) \Rightarrow \\ & ((r7_pdiff_5 \ X2 \ X1) \Rightarrow ((r3_pdiff_1 \ np_3 \ np_1 \ (k26_valued_1 \ (k1_euclid \\ & np_3) \ k1_numbers \ (k1_pdiff_3 \ np_3 \ np_3 \ X2) \ X0) \ X1) \wedge (k11_pdiff_1 \\ & np_3 \ np_1 \ (k26_valued_1 \ (k1_euclid \ np_3) \ k1_numbers \ (k1_pdiff_3 \\ & np_3 \ np_3 \ X2) \ X0) \ X1 = k8_real_1 \ X0 \ (k7_pdiff_5 \ X2 \ X1)))))) \end{aligned}$$