

t4_fdifff_9
(TMEjnZYD6vwiV4XBsarr458V15osSa9wzkC)

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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 $k1_numbers : \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_fdiff_9 : \iota$ be given. Let $r2_fdiff_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_fdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_sin_cos : \iota$ be given. Let $k5_square_1 : \iota \Rightarrow \iota$ be given. Let $k19_sin_cos : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k4_rfunct_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k6_rfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow \\ (\forall X2.((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_valued_0 \\ X2)))) \Rightarrow (\neg(X1 \in k9_xtuple_0 (k4_rfunct_1 X2)) \wedge (k1_funct_1 X2 X1 = \\ k6_numbers)))) \quad (4) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v3_rcomp_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 k1_numbers))) \Rightarrow \\ & \quad ((\forall X1.(m1_subset_1 X1 k1_numbers) \Rightarrow (\neg(X1 \in X0) \wedge (k1_seq_1 \\ & \quad k19_sin_cos X1 = k6_numbers))) \Rightarrow ((r2_fdiff_1 (k6_rfunct_1 k1_numbers \\ & \quad k1_numbers k19_sin_cos) X0) \wedge (\forall X1.(m1_subset_1 X1 k1_numbers) \Rightarrow \\ & \quad ((X1 \in X0) \Rightarrow (k1_seq_1 (k2_fdiff_1 (k6_rfunct_1 k1_numbers k1_numbers \\ & \quad k19_sin_cos) X0) X1 = k10_real_1 (k1_seq_1 k16_sin_cos X1) (k5_square_1 \\ & \quad (k1_seq_1 k19_sin_cos X1))))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. \forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v3_membered X1) \wedge ((v1_funct_1 \\ & \quad X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow (k6_rfunct_1 \\ & \quad X0 X1 X2 = k4_rfunct_1 X2)) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_valued_0 X0))) \Rightarrow (k1_seq_1 X0 X1 = k1_funct_1 X0 X1) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (9)$$

Assume the following.

$$v3_membered k1_numbers \quad (10)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (11)$$

Assume the following.

$$(v1_funct_1 k1_fdiff_9) \wedge (m1_subset_1 k1_fdiff_9 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))) \quad (12)$$

Assume the following.

$$(v1_funct_1 k19_sin_cos) \wedge ((v1_funct_2 k19_sin_cos k1_numbers k1_numbers) \wedge (m1_subset_1 k19_sin_cos (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))) \quad (13)$$

Assume the following.

$$k1_fdiff_9 = k6_rfunct_1 k1_numbers k1_numbers k19_sin_cos \quad (14)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \Rightarrow ((v1_relat_1 X0) \wedge (v1_valued_0 X0)) \quad (15)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)) \quad (16)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \quad (17)$$

Assume the following.

$$\forall X0. \forall X1. (v3_membered X1) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v3_valued_0 X2)) \quad (18)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((v3_rcomp_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 k1_numbers))) \Rightarrow \\ & ((r1_tarski X0 (k1_relset_1 k1_numbers k1_fdiff_9)) \Rightarrow ((r2_fdiff_1 \\ & k1_fdiff_9 X0) \wedge (\forall X1. (m1_subset_1 X1 k1_numbers) \Rightarrow ((X1 \in \\ & X0) \Rightarrow (k1_seq_1 (k2_fdiff_1 k1_fdiff_9 X0) X1 = k10_real_1 (k1_seq_1 \\ & k16_sin_cos X1) (k5_square_1 (k1_seq_1 k19_sin_cos X1))))))) \end{aligned}$$