

t34_fdifff_7

(TMbGsvvgCvrTAonJByaaDziFZj4G9RKHtSG)

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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 $k1_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k24_sin_cos : \iota$ be given. Let $k16_sin_cos : \iota$ 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 $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19_sin_cos : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_fdiff_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k1_fdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0. (& (v3_rcomp_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 k1_numbers))) \Rightarrow \\ & (\forall X1. ((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k1_numbers k1_numbers)))) \Rightarrow ((r2_fdiff_1 X1 X0) \Leftrightarrow ((r1_tarski X0 \\ & (k1_relset_1 k1_numbers X1)) \wedge (\forall X2. (m1_subset_1 X2 k1_numbers) \Rightarrow \\ & ((X2 \in X0) \Rightarrow (r1_fdiff_1 X1 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. (v1_xreal_0 X0) \Rightarrow ((r1_fdiff_1 k24_sin_cos X0) \wedge (k1_fdiff_1 k24_sin_cos X0 = k1_seq_1 k24_sin_cos X0)) \tag{2}$$

Assume the following.

$$\forall X0. (v1_xreal_0 X0) \Rightarrow ((r1_fdiff_1 k16_sin_cos X0) \wedge (k1_fdiff_1 k16_sin_cos X0 = k1_seq_1 k19_sin_cos X0)) \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.((v1_funct_1 \\
& X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))) \Rightarrow \\
& (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& k1_numbers k1_numbers)))) \Rightarrow (((r1_fdiff_1 X1 X0) \wedge (r1_fdiff_1 \\
& X2 (k1_seq_1 X1 X0))) \Rightarrow ((r1_fdiff_1 (k1_partfun1 k1_numbers k1_numbers \\
& k1_numbers k1_numbers X1 X2) X0) \wedge (k1_fdiff_1 (k1_partfun1 k1_numbers \\
& k1_numbers k1_numbers k1_numbers X1 X2) X0 = k8_real_1 (k1_fdiff_1 \\
& X2 (k1_seq_1 X1 X0)) (k1_fdiff_1 X1 X0))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_valued_0 X0))) \Rightarrow (k1_seq_1 X0 X1 = k1_funct_1 X0 X1) \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\
& (((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 X1)))) \wedge ((v1_funct_1 X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X2 X3)))) \Rightarrow (k1_partfun1 X0 X1 X2 X3 X4 X5 = k3_relat_1 X4 X5)
\end{aligned} \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_valued_0 X0))) \Rightarrow (v1_xreal_0 (k1_funct_1 X0 X1)) \tag{7}$$

Assume the following.

$$v3_membered k1_numbers \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((v1_funct_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 \\
& (k2_zfmisc_1 k1_numbers k1_numbers)))) \Rightarrow ((v1_funct_1 (k2_fdiff_1 \\
& X0 X1)) \wedge (m1_subset_1 (k2_fdiff_1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 \\
& k1_numbers k1_numbers))))
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned}
& (v1_funct_1 k24_sin_cos) \wedge ((v1_funct_2 k24_sin_cos k1_numbers \\
& k1_numbers) \wedge (m1_subset_1 k24_sin_cos (k1_zfmisc_1 (k2_zfmisc_1 \\
& k1_numbers k1_numbers))))
\end{aligned} \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_valued_0 X0))) \Rightarrow (m1_subset_1 (k1_seq_1 X0 X1) k1_numbers) \tag{11}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & (((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1))))\wedge((v1_funct_1 X5)\wedge(m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X2 X3))))\Rightarrow((v1_funct_1 (k1_partfun1 X0 X1 X2 X3 X4 X5))\wedge(m1_subset_1 \\ & (k1_partfun1 X0 X1 X2 X3 X4 X5) (k1_zfmisc_1 (k2_zfmisc_1 X0 X3)))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 k19_sin_cos)\wedge((v1_funct_2 k19_sin_cos k1_numbers \\ & k1_numbers)\wedge(m1_subset_1 k19_sin_cos (k1_zfmisc_1 (k2_zfmisc_1 \\ & k1_numbers k1_numbers)))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 k16_sin_cos)\wedge((v1_funct_2 k16_sin_cos k1_numbers \\ & k1_numbers)\wedge(m1_subset_1 k16_sin_cos (k1_zfmisc_1 (k2_zfmisc_1 \\ & k1_numbers k1_numbers)))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0)\wedge(m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k1_numbers k1_numbers))))\Rightarrow(\forall X1.(r2_fdiff_1 X0 X1)\Rightarrow(\forall X2. \\ & ((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers \\ & k1_numbers))))\Rightarrow((X2 = k2_fdiff_1 X0 X1)\Leftrightarrow((k1_relset_1 k1_numbers \\ & X2 = X1)\wedge(\forall X3.(m1_subset_1 X3 k1_numbers)\Rightarrow((X3 \in X1)\Rightarrow(k1_seq_1 \\ & X2 X3 = k1_fdiff_1 X0 X3)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1_subset_1 X0 k1_numbers)\wedge(v1_xreal_0 \\ & X1))\Rightarrow(k8_real_1 X0 X1 = k8_real_1 X1 X0) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(v3_membered X1)\Rightarrow(\forall X2.(m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v3_valued_0 X2)) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v3_membered X0)\Rightarrow(\forall X1.(m1_subset_1 X1 X0)\Rightarrow \\ & (v1_xreal_0 X1)) \end{aligned} \quad (19)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v3_rcomp_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 k1_numbers))) \Rightarrow \\ & \quad ((r1_tarski X0 (k1_relset_1 k1_numbers (k1_partfun1 k1_numbers \\ & \quad k1_numbers k1_numbers k1_numbers k24_sin_cos k16_sin_cos))) \Rightarrow \\ & ((r2_fdiff_1 (k1_partfun1 k1_numbers k1_numbers k1_numbers k1_numbers \\ & \quad k24_sin_cos k16_sin_cos) X0) \wedge (\forall X1.(m1_subset_1 X1 k1_numbers) \Rightarrow \\ & ((X1 \in X0) \Rightarrow (k1_seq_1 (k2_fdiff_1 (k1_partfun1 k1_numbers k1_numbers \\ & \quad k1_numbers k1_numbers k24_sin_cos k16_sin_cos) X0) X1 = k8_real_1 \\ & \quad (k1_seq_1 k24_sin_cos X1) (k1_seq_1 k19_sin_cos (k1_seq_1 k24_sin_cos \\ & \quad X1)))))) \end{aligned}$$