

t98_integra8
(TMXb64Ssa1n5dPmiNi26bcMgLWtJs8tDnWR)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_measure5 : \iota \Rightarrow o$ 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 $k2_integra5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k20_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_sin_cos2 : \iota$ be given. Let $k9_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_sin_cos2 : \iota$ be given. Let $k4_seq_4 : \iota \Rightarrow \iota$ be given. Let $k5_seq_4 : \iota \Rightarrow \iota$ be given. Let $r1_tarSKI : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r2_fdiff_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_fdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_rcomp_1 : \iota \Rightarrow o$ be given. Let $r1_integra5 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_comseq_2 : \iota \Rightarrow o$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k2_subset_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarSKI X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. (v1_xreal_0 X0) \Rightarrow ((r2_fdiff_1 k4_sin_cos2 k1_numbers) \wedge (k1_fdiff_1 k4_sin_cos2 X0 = k1_seq_1 k1_sin_cos2 X0)) \quad (2)$$

Assume the following.

$$\forall X0. (v1_xreal_0 X0) \Rightarrow ((r2_fdiff_1 k1_sin_cos2 k1_numbers) \wedge (k1_fdiff_1 k1_sin_cos2 X0 = k1_seq_1 k4_sin_cos2 X0)) \quad (3)$$

Assume the following.

$$k2_fdiff_1 k4_sin_cos2 k1_numbers = k1_sin_cos2 \quad (4)$$

Assume the following.

$$k2_fdiff_1 k1_sin_cos2 k1_numbers = k4_sin_cos2 \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge ((v2_measure5 X0) \wedge (m1_subset_1 \\
& \quad X0 (k1_zfmisc_1 k1_numbers)))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))) \Rightarrow \\
& (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& \quad k1_numbers k1_numbers)))) \Rightarrow (\forall X3.((v3_rcomp_1 X3) \wedge (m1_subset_1 \\
& \quad X3 (k1_zfmisc_1 k1_numbers))) \Rightarrow (((r2_fdiff_1 X1 X3) \wedge ((r2_fdiff_1 \\
& \quad X2 X3) \wedge ((r1_tarski X0 X3) \wedge ((r1_integra5 X0 (k2_fdiff_1 X1 X3)) \wedge \\
& \quad ((v1_comseq_2 (k2_partfun1 k1_numbers k1_numbers (k2_fdiff_1 \\
& \quad \quad X1 X3) X0)) \wedge ((r1_integra5 X0 (k2_fdiff_1 X2 X3)) \wedge (v1_comseq_2 \\
& \quad (k2_partfun1 k1_numbers k1_numbers (k2_fdiff_1 X2 X3) X0)))))) \Rightarrow \\
& (k2_integra5 X0 (k20_valued_1 k1_numbers k1_numbers k1_numbers \\
& \quad (k2_fdiff_1 X1 X3) X2) = k9_real_1 (k9_real_1 (k8_real_1 (k1_seq_1 \\
& \quad X1 (k4_seq_4 X0)) (k1_seq_1 X2 (k4_seq_4 X0))) (k8_real_1 (k1_seq_1 \\
& \quad X1 (k5_seq_4 X0)) (k1_seq_1 X2 (k5_seq_4 X0)))) (k2_integra5 X0 \\
& \quad (k20_valued_1 k1_numbers k1_numbers k1_numbers X1 (k2_fdiff_1 \\
& \quad \quad X2 X3)))))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\
& (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& \quad (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 \\
& \quad X1 X2 X3 = k1_funct_1 X2 X3)
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_valued_0 \\
& \quad X0))) \Rightarrow (k1_seq_1 X0 X1 = k1_funct_1 X0 X1)
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned}
& \exists X0. (m1_subset_1 X0 k1_numbers) \wedge ((v1_xxreal_0 X0) \wedge ((\\
& \quad v1_xcmplx_0 X0) \wedge ((v1_xreal_0 X0) \wedge (v1_int_1 X0))))
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v1_xboole_0 X0) \wedge ((v2_measure5 X0) \wedge (m1_subset_1 \\
& \quad X0 (k1_zfmisc_1 k1_numbers)))) \Rightarrow ((r1_integra5 X0 k4_sin_cos2) \wedge \\
& \quad (v1_comseq_2 (k2_partfun1 k1_numbers k1_numbers k4_sin_cos2 \\
& \quad \quad X0)))
\end{aligned} \tag{10}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v1_xboole_0 X0) \wedge ((v2_measure5 X0) \wedge (m1_subset_1 \\
& \quad X0 (k1_zfmisc_1 k1_numbers)))) \Rightarrow ((r1_integra5 X0 k1_sin_cos2) \wedge \\
& \quad (v1_comseq_2 (k2_partfun1 k1_numbers k1_numbers k1_sin_cos2 \\
& \quad \quad X0)))
\end{aligned} \tag{11}$$

Assume the following.

$$v3_membered\ k1_numbers \quad (12)$$

Assume the following.

$$v3_rcomp_1\ (k2_subset_1\ k1_numbers) \quad (13)$$

Assume the following.

$$\neg v1_xboole_0\ k1_numbers \quad (14)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ (k1_zfmisc_1\ k1_numbers)) \Rightarrow (m1_subset_1\ (k5_seq_4\ X0)\ k1_numbers) \quad (15)$$

Assume the following.

$$(v1_funct_1\ k4_sin_cos2) \wedge ((v1_funct_2\ k4_sin_cos2\ k1_numbers\ k1_numbers) \wedge (m1_subset_1\ k4_sin_cos2\ (k1_zfmisc_1\ (k2_zfmisc_1\ k1_numbers\ k1_numbers)))) \quad (16)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ (k1_zfmisc_1\ k1_numbers)) \Rightarrow (m1_subset_1\ (k4_seq_4\ X0)\ k1_numbers) \quad (17)$$

Assume the following.

$$\forall X0.m1_subset_1\ (k2_subset_1\ X0)\ (k1_zfmisc_1\ X0) \quad (18)$$

Assume the following.

$$(v1_funct_1\ k1_sin_cos2) \wedge ((v1_funct_2\ k1_sin_cos2\ k1_numbers\ k1_numbers) \wedge (m1_subset_1\ k1_sin_cos2\ (k1_zfmisc_1\ (k2_zfmisc_1\ k1_numbers\ k1_numbers)))) \quad (19)$$

Assume the following.

$$\forall X0.k2_subset_1\ X0 = X0 \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))) \Rightarrow (v1_relat_1\ X2) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.(v3_membered\ X1) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))) \Rightarrow (v3_valued_0\ X2)) \quad (22)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge ((v2_measure5 X0) \wedge (m1_subset_1 \\ & X0 (k1_zfmisc_1 k1_numbers)))) \Rightarrow (k2_integra5 X0 (k20_valued_1 \\ k1_numbers k1_numbers k1_numbers k1_sin_cos2 k1_sin_cos2) = k9_real_1 \\ & (k9_real_1 (k8_real_1 (k3_funct_2 k1_numbers k1_numbers k4_sin_cos2 \\ & (k4_seq_4 X0)) (k3_funct_2 k1_numbers k1_numbers k1_sin_cos2 \\ & (k4_seq_4 X0))) (k8_real_1 (k3_funct_2 k1_numbers k1_numbers \\ & k4_sin_cos2 (k5_seq_4 X0)) (k3_funct_2 k1_numbers k1_numbers \\ & k1_sin_cos2 (k5_seq_4 X0)))) (k2_integra5 X0 (k20_valued_1 k1_numbers \\ & k1_numbers k1_numbers k4_sin_cos2 k4_sin_cos2))) \end{aligned}$$