

t41_integra8

(TMc3oo8WSWTGMtqNZ7b8zus5epGYe2A9Ax9)

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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 $k1_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k32_sin_cos : \iota$ be given. Let $k2_integra5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19_sin_cos : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_sin_cos : \iota$ be given. Let $k3_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $k9_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $k21_sin_cos : \iota \Rightarrow \iota$ be given. Let $k18_sin_cos : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_seq_4 : \iota \Rightarrow \iota$ be given. Let $k5_seq_4 : \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k31_sin_cos : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(v1_xreal_0 X0) \Rightarrow ((k1_seq_1 k16_sin_cos (k3_real_1 \\
 & X0 (k8_real_1 np_2 k32_sin_cos)) = k1_seq_1 k16_sin_cos X0) \wedge (\\
 & (k1_seq_1 k19_sin_cos (k3_real_1 X0 (k8_real_1 np_2 k32_sin_cos)) = \\
 & k1_seq_1 k19_sin_cos X0) \wedge ((k1_seq_1 k16_sin_cos (k9_real_1 (\\
 & k10_real_1 k32_sin_cos np_2) X0) = k1_seq_1 k19_sin_cos X0) \wedge (\\
 & (k1_seq_1 k19_sin_cos (k9_real_1 (k10_real_1 k32_sin_cos np_2) \\
 & X0) = k1_seq_1 k16_sin_cos X0) \wedge ((k1_seq_1 k16_sin_cos (k7_real_1 \\
 & (k10_real_1 k32_sin_cos np_2) X0) = k1_seq_1 k19_sin_cos X0) \wedge \\
 & ((k1_seq_1 k19_sin_cos (k7_real_1 (k10_real_1 k32_sin_cos np_2) \\
 & X0) = k1_real_1 (k1_seq_1 k16_sin_cos X0)) \wedge ((k1_seq_1 k16_sin_cos \\
 & (k7_real_1 k32_sin_cos X0) = k1_real_1 (k1_seq_1 k16_sin_cos X0)) \wedge \\
 & (k1_seq_1 k19_sin_cos (k7_real_1 k32_sin_cos X0) = k1_real_1 (\\
 & k1_seq_1 k19_sin_cos X0)))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& (k21_sin_cos (k10_real_1 k32_sin_cos np_2) = k6_numbers) \wedge ((\\
& k18_sin_cos (k10_real_1 k32_sin_cos np_2) = np_1) \wedge ((k21_sin_cos \\
& k32_sin_cos = k1_real_1 np_1) \wedge ((k18_sin_cos k32_sin_cos = k6_numbers) \wedge \\
& ((k21_sin_cos (k7_real_1 k32_sin_cos (k10_real_1 k32_sin_cos \\
& np_2)) = k6_numbers) \wedge ((k18_sin_cos (k7_real_1 k32_sin_cos (\\
& k10_real_1 k32_sin_cos np_2)) = k1_real_1 np_1) \wedge ((k21_sin_cos \\
& (k8_real_1 np_2 k32_sin_cos) = np_1) \wedge (k18_sin_cos (k8_real_1 \\
& np_2 k32_sin_cos) = k6_numbers))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& (k1_seq_1 k19_sin_cos (k10_real_1 k32_sin_cos np_2) = k6_numbers) \wedge \\
& ((k1_seq_1 k16_sin_cos (k10_real_1 k32_sin_cos np_2) = np_1) \wedge \\
& ((k1_seq_1 k19_sin_cos k32_sin_cos = k1_real_1 np_1) \wedge ((k1_seq_1 \\
& k16_sin_cos k32_sin_cos = k6_numbers) \wedge ((k1_seq_1 k19_sin_cos \\
& (k7_real_1 k32_sin_cos (k10_real_1 k32_sin_cos np_2)) = k6_numbers) \wedge \\
& ((k1_seq_1 k16_sin_cos (k7_real_1 k32_sin_cos (k10_real_1 k32_sin_cos \\
& np_2)) = k1_real_1 np_1) \wedge ((k1_seq_1 k19_sin_cos (k8_real_1 \\
& np_2 k32_sin_cos) = np_1) \wedge (k1_seq_1 k16_sin_cos (k8_real_1 \\
& np_2 k32_sin_cos) = k6_numbers))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k6_xcmplx_0 X0 k6_numbers = X0) \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge ((v2_measure5 X0) \wedge (m1_subset_1 \\
& X0 (k1_zfmisc_1 k1_numbers)))) \Rightarrow (k2_intgra5 X0 k19_sin_cos = \\
& k9_real_1 (k3_funct_2 k1_numbers k1_numbers k16_sin_cos (k4_seq_4 \\
& X0)) (k3_funct_2 k1_numbers k1_numbers k16_sin_cos (k5_seq_4 \\
& X0)))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\
& X1 k1_numbers) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge ((v2_measure5 \\
& X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 k1_numbers)))) \Rightarrow ((X2 = k1_rcomp_1 \\
& X0 X1) \Rightarrow ((k4_seq_4 X2 = X1) \wedge (k5_seq_4 X2 = X0))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\
& ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((m1_subset_1 X0 k1_numbers) \wedge (v1_xreal_0 \\
& X1)) \Rightarrow (k9_real_1 X0 X1 = k6_xcmplx_0 X0 X1)
\end{aligned} \tag{8}$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0) \wedge \\ & (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 \\ & X1 X2 X3 = k1_funct_1 X2 X3) \end{aligned} \quad (10)$$

Assume the following.

$$k32_sin_cos = k31_sin_cos \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_valued_0 \\ & X0))) \Rightarrow (k1_seq_1 X0 X1 = k1_funct_1 X0 X1) \end{aligned} \quad (12)$$

Assume the following.

$$v3_membered\ k1_numbers \quad (13)$$

Assume the following.

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

Assume the following.

$$m1_subset_1\ k32_sin_cos\ k1_numbers \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1\ X0\ k1_numbers) \Rightarrow (m1_subset_1\ (k18_sin_cos \\ & X0)\ k1_numbers) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & (v1_funct_1\ k16_sin_cos) \wedge ((v1_funct_2\ k16_sin_cos\ k1_numbers \\ & k1_numbers) \wedge (m1_subset_1\ k16_sin_cos\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ & k1_numbers\ k1_numbers)))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1_subset_1\ X0\ k1_numbers) \wedge (v1_xreal_0 \\ & X1)) \Rightarrow (m1_subset_1\ (k10_real_1\ X0\ X1)\ k1_numbers) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k1_numbers) \Rightarrow (v1_xreal_0\ X0) \quad (19)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xcmplx_0 X0) \quad (20)$$

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

$$\forall X0.((\neg v1_xboole_0 X0) \wedge ((v2_measure5 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 k1_numbers)))) \Rightarrow ((X0 = k1_rcomp_1 k6_numbers k32_sin_cos) \Rightarrow (k2_integra5 X0 k19_sin_cos = k6_numbers))$$