

t21_integr19 (TM-
bYyvXAoEuy3DLwVYkuPC4wgXXtdgtGkrH)

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Let $v1_xreal_0 : \iota \Rightarrow o$ 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 $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_integra5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_integr15 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_integra5 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_nfcont_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_integr15 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_euclid : \iota \Rightarrow \iota$ be given. Let $k12_integr15 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_integra5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_measure5 : \iota \Rightarrow o$ be given. Let $k11_integr15 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_integra5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge ((v2_measure5 X0) \wedge (m1_subset_1 \\
& X0 (k1_zfmisc_1 k1_numbers)))) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge \\
& (m2_subset_1 X1 k1_numbers k5_numbers)) \Rightarrow (\forall X2.((v1_funct_1 \\
& X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers (k1_euclid \\
& X1)))))) \Rightarrow (((r1_tarski X0 (k1_relset_1 k1_numbers X2)) \wedge ((v3_integr15 \\
& (k2_partfun1 k1_numbers (k1_euclid X1) X2 X0) X1) \wedge ((r1_integr15 \\
& X1 X0 X2) \wedge (r1_integra5 X0 (k1_nfcont_4 X1 k1_numbers X2)))))) \Rightarrow (\\
& r1_xxreal_0 (k12_euclid (k11_integr15 X1 X0 X2)) (k2_integra5 \\
& X0 (k1_nfcont_4 X1 k1_numbers X2))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
& ((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers \\
& (k1_euclid X0)))) \Rightarrow (\forall X2. ((\neg v1_xboole_0 X2) \wedge ((v2_measure5 \\
& X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 k1_numbers)))) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 k1_numbers) \Rightarrow (\forall X4. (m1_subset_1 X4 k1_numbers) \Rightarrow \\
& ((X2 = k1_rcomp_1 X3 X4) \Rightarrow (k11_integr15 X0 X2 X1 = k12_integr15 X3 \\
& X4 X0 X1))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\
& X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1))
\end{aligned} \tag{4}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{5}$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \tag{6}$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \tag{7}$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow ((\neg \\
& v1_xboole_0 (k3_integra5 X0 X1)) \wedge ((v2_measure5 (k3_integra5 \\
& X0 X1)) \wedge (m1_subset_1 (k3_integra5 X0 X1) (k1_zfmisc_1 k1_numbers))))
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. ((m1_subset_1 X0 k5_numbers) \wedge \\
& ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 \\
& (k1_euclid X0)))))) \Rightarrow ((v1_funct_1 (k1_nfcont_4 X0 X1 X2)) \wedge (m1_subset_1 \\
& (k1_nfcont_4 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 X1 k1_numbers))))
\end{aligned} \tag{10}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (v1_xreal_0 X0) \Rightarrow (\forall X1. (v1_xreal_0 X1) \Rightarrow (\forall X2. \\
& ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers \\
& k1_numbers)))) \Rightarrow (((r1_xreal_0 X0 X1) \Rightarrow (k4_integra5 X0 X1 X2 = k2_integra5 \\
& (k3_integra5 X0 X1) X2)) \wedge ((\neg r1_xreal_0 X0 X1) \Rightarrow (k4_integra5 X0 \\
& X1 X2 = k1_real_1 (k2_integra5 (k3_integra5 X1 X0) X2))))))
\end{aligned} \tag{11}$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \Rightarrow (k3_integra5 X0 X1 = k1_rcomp_1 X0 X1))) \quad (12)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Leftrightarrow (X0 \in k1_numbers) \quad (13)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & ((\neg v1_xboole_0 X2) \wedge (m2_subset_1 X2 k1_numbers k5_numbers)) \Rightarrow \\ & (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k1_numbers (k1_euclid X2)))))) \Rightarrow (((r1_xxreal_0 X0 X1) \wedge ((r1_tarski \\ & (k3_integra5 X0 X1) (k1_relset_1 k1_numbers X3)) \wedge ((r1_integr15 \\ & X2 (k3_integra5 X0 X1) X3) \wedge ((r1_integra5 (k3_integra5 X0 X1) (k1_nfcont_4 \\ & X2 k1_numbers X3)) \wedge (v3_integr15 (k2_partfun1 k1_numbers (k1_euclid \\ & X2) X3 (k3_integra5 X0 X1)) X2)))))) \Rightarrow (r1_xxreal_0 (k12_euclid (\\ & k12_integr15 X0 X1 X2 X3)) (k4_integra5 X0 X1 (k1_nfcont_4 X2 k1_numbers \\ & X3)))))) \end{aligned}$$