

t85_integra8
(TMX9srrZEHUdSUetr7ZmJMBBupcwK8bxXy)

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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 $k26_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_sin_cos : \iota$ 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 $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k32_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19_sin_cos : \iota$ be given. Let $k4_seq_4 : \iota \Rightarrow \iota$ be given. Let $k5_seq_4 : \iota \Rightarrow \iota$ 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 $r2_fdiff_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_integra5 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_fdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_comseq_2 : \iota \Rightarrow o$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_fdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v3_membered : \iota \Rightarrow o$ be given. Let $k30_valued_1 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_subset_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((v1_funct_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\
& \quad k1_numbers k1_numbers)))) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge (\\
& \quad (v2_measure5 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 k1_numbers)))) \Rightarrow \\
& \quad (\forall X2.(m1_subset_1 X2 k1_numbers) \Rightarrow (\forall X3.((v3_rcomp_1 \\
& \quad X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 k1_numbers))) \Rightarrow ((r2_fdiff_1 \\
& \quad X0 X3) \wedge ((r1_tarski X1 X3) \wedge ((r1_integra5 X1 (k2_fdiff_1 X0 X3)) \wedge \\
& \quad (v1_comseq_2 (k2_partfun1 k1_numbers k1_numbers (k2_fdiff_1 \\
& \quad X0 X3) X1)))) \Rightarrow (k2_integra5 X1 (k26_valued_1 k1_numbers k1_numbers \\
& \quad (k2_fdiff_1 X0 X3) X2) = k9_real_1 (k8_real_1 X2 (k1_seq_1 X0 (k4_seq_4 \\
& \quad X1))) (k8_real_1 X2 (k1_seq_1 X0 (k5_seq_4 X1)))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \tag{2}$$

Assume the following.

$$\begin{aligned} k2_fdiff_1 (k32_valued_1 k1_numbers k1_numbers k19_sin_cos) \\ k1_numbers = k16_sin_cos \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} (r2_fdiff_1 (k32_valued_1 k1_numbers k1_numbers k19_sin_cos) \\ k1_numbers) \wedge (\forall X0. (m1_subset_1 X0 k1_numbers) \Rightarrow ((X0 \in k1_numbers) \Rightarrow \\ (k1_fdiff_1 (k32_valued_1 k1_numbers k1_numbers k19_sin_cos) \\ X0 = k3_funct_2 k1_numbers k1_numbers k16_sin_cos X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 \\ X1 X2 X3 = k1_funct_1 X2 X3) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. ((v3_membered X1) \wedge ((v1_funct_1 \\ X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow (k32_valued_1 \\ X0 X1 X2 = k30_valued_1 X2) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_valued_0 \\ X0))) \Rightarrow (k1_seq_1 X0 X1 = k1_funct_1 X0 X1) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v1_xboole_0 X0) \wedge ((v2_measure5 X0) \wedge (m1_subset_1 \\ X0 (k1_zfmisc_1 k1_numbers)))) \Rightarrow ((r1_integra5 X0 k16_sin_cos) \wedge \\ (v1_comseq_2 (k2_partfun1 k1_numbers k1_numbers k16_sin_cos \\ X0))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((\neg v1_xboole_0 X1) \wedge (v3_membered \\ X1)) \wedge ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 \\ (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((v1_funct_1 (k30_valued_1 \\ X2)) \wedge (v1_partfun1 (k30_valued_1 X2) X0)) \end{aligned} \quad (9)$$

Assume the following.

$$v3_membered k1_numbers \quad (10)$$

Assume the following.

$$v3_rcomp_1 (k2_subset_1 k1_numbers) \quad (11)$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \quad (12)$$

Assume the following.

$$\forall X0.(m1_subset_1 \ X0 \ (k1_zfmisc_1 \ k1_numbers)) \Rightarrow (m1_subset_1 \ (k5_seq_4 \ X0) \ k1_numbers) \quad (13)$$

Assume the following.

$$\forall X0.(m1_subset_1 \ X0 \ (k1_zfmisc_1 \ k1_numbers)) \Rightarrow (m1_subset_1 \ (k4_seq_4 \ X0) \ k1_numbers) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v3_membered \ X1) \wedge ((v1_funct_1 \\ & X2) \wedge (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1)))))) \Rightarrow ((v1_funct_1 \\ & (k32_valued_1 \ X0 \ X1 \ X2)) \wedge (m1_subset_1 \ (k32_valued_1 \ X0 \ X1 \ X2) \ (\\ & k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ k1_numbers)))) \quad (15) \end{aligned}$$

Assume the following.

$$\forall X0.m1_subset_1 \ (k2_subset_1 \ X0) \ (k1_zfmisc_1 \ X0) \quad (16)$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 \ k19_sin_cos) \wedge ((v1_funct_2 \ k19_sin_cos \ k1_numbers \\ & k1_numbers) \wedge (m1_subset_1 \ k19_sin_cos \ (k1_zfmisc_1 \ (k2_zfmisc_1 \\ & k1_numbers \ k1_numbers)))) \quad (17) \end{aligned}$$

Assume the following.

$$\forall X0.k2_subset_1 \ X0 = X0 \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1))) \Rightarrow (v1_relat_1 \ X2) \quad (19)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ X0 \ X1))) \Rightarrow ((v1_partfun1 \ X2 \ X0) \Rightarrow (v1_funct_2 \ X2 \ X0 \ X1)) \quad (20) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.(v3_membered \ X1) \Rightarrow (\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1))) \Rightarrow (v3_valued_0 \ X2)) \quad (21)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge ((v2_measure5 X0) \wedge (m1_subset_1 \\ & X0 (k1_zfmisc_1 k1_numbers)))) \Rightarrow (\forall X1.(m1_subset_1 X1 k1_numbers) \Rightarrow \\ & (k2_intgra5 X0 (k26_valued_1 k1_numbers k1_numbers k16_sin_cos \\ & X1) = k9_real_1 (k8_real_1 X1 (k3_funct_2 k1_numbers k1_numbers \\ & (k32_valued_1 k1_numbers k1_numbers k19_sin_cos) (k4_seq_4 X0))) \\ & (k8_real_1 X1 (k3_funct_2 k1_numbers k1_numbers (k32_valued_1 \\ & k1_numbers k1_numbers k19_sin_cos) (k5_seq_4 X0)))))) \end{aligned}$$