

t17_integr16

(TMWQ5q5pLWLsmDYZTX7AVcDCAxRXNwjRxK7)

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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 $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_numbers : \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_integr16 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_integr16 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_comseq_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_comseq_3 : \iota \Rightarrow \iota$ be given. Let $k5_comseq_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_comseq_3 : \iota \Rightarrow \iota$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_integra5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_integra5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_complex1 : \iota$ be given. Let $k12_integra1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers)))) \Rightarrow (k6_comseq_3 X0 X1 = k4_comseq_3 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers)))) \Rightarrow (k5_comseq_3 X0 X1 = k3_comseq_3 X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow (k2_partfun1 X0 X1 X2 X3 = k5_relat_1 X2 X3) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1_funct_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 \\ (k2_zfmisc_1 k1_numbers k1_numbers)))) \wedge ((\neg v1_xboole_0 X1) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 k1_numbers)))) \Rightarrow (k1_integra5 X0 \\ X1 = k5_relat_1 X0 X1) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1_funct_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\ k1_numbers k2_numbers)))) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 \\ k1_numbers)) \Rightarrow ((r2_relset_1 k1_numbers k1_numbers (k5_comseq_3 \\ k1_numbers (k2_partfun1 k1_numbers k2_numbers X0 X1)) (k2_partfun1 \\ k1_numbers k1_numbers (k5_comseq_3 k1_numbers X0 X1)) \wedge (r2_relset_1 \\ k1_numbers k1_numbers (k6_comseq_3 k1_numbers (k2_partfun1 k1_numbers \\ k2_numbers X0 X1)) (k2_partfun1 k1_numbers k1_numbers (k6_comseq_3 \\ k1_numbers X0 X1)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 k2_numbers)))) \Rightarrow ((v1_funct_1 (k6_comseq_3 X0 \\ X1)) \wedge (m1_subset_1 (k6_comseq_3 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 k1_numbers)))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 k2_numbers)))) \Rightarrow ((v1_funct_1 (k5_comseq_3 X0 \\ X1)) \wedge (m1_subset_1 (k5_comseq_3 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 k1_numbers)))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. \forall X3. ((v1_funct_1 X2) \wedge \\ (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow ((v1_funct_1 \\ (k2_partfun1 X0 X1 X2 X3)) \wedge (m1_subset_1 (k2_partfun1 X0 X1 X2 X3) \\ (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v1_xboole_0 X0) \wedge ((v2_measure5 X0) \wedge (m1_subset_1 \\ X0 (k1_zfmisc_1 k1_numbers)))) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k2_numbers)))) \Rightarrow \\ (k7_integr16 X0 X1 = k3_binop_2 (k2_integra5 X0 (k5_comseq_3 k1_numbers \\ X1)) (k5_binop_2 (k2_integra5 X0 (k6_comseq_3 k1_numbers X1)) \\ k7_complex1))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge ((v2_measure5 X0) \wedge (m1_subset_1 \\
& \quad X0 (k1_zfmisc_1 k1_numbers)))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\
& ((v1_funct_2 X1 X0 k2_numbers) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (\\
& k2_zfmisc_1 X0 k2_numbers)))))) \Rightarrow (k6_integr16 X0 X1 = k3_binop_2 \\
& (k12_integra1 X0 (k5_comseq_3 X0 X1)) (k5_binop_2 (k12_integra1 \\
& \quad X0 (k6_comseq_3 X0 X1)) k7_complex1))
\end{aligned} \tag{11}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge ((v2_measure5 X0) \wedge (m1_subset_1 \\
& \quad X0 (k1_zfmisc_1 k1_numbers)))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))) \Rightarrow \\
& (k2_integra5 X0 X1 = k12_integra1 X0 (k1_integra5 X1 X0)))
\end{aligned} \tag{12}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge ((v2_measure5 X0) \wedge (m1_subset_1 \\
& \quad X0 (k1_zfmisc_1 k1_numbers)))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k2_numbers)))) \Rightarrow \\
& (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 k2_numbers) \wedge \\
& (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k2_numbers)))))) \Rightarrow \\
& ((k2_partfun1 k1_numbers k2_numbers X1 X0 = X2) \Rightarrow (k7_integr16 X0 \\
& \quad X1 = k6_integr16 X0 X2)))
\end{aligned}$$