

t22_seqfunc

(TMSu3N1rZSWrCRVdsvMmQ8NNXq3kDHMtfSz)

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Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $k5_numbers : \iota$ be given. Let $k4_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ 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 $r3_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k18_complex1 : \iota \Rightarrow \iota$ be given. Let $k9_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_seqfunc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\
 & (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 \\
 & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers)))))) \Rightarrow \\
 & (\forall X2. (r3_seqfunc X0 X1 X2) \Leftrightarrow ((r1_seqfunc X0 k1_numbers X1 \\
 & X2) \wedge (\exists X3. ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
 & (k2_zfmisc_1 X0 k1_numbers)))))) \wedge ((X2 = k1_relset_1 X0 X3) \wedge (\forall X4. \\
 & (m1_subset_1 X4 k1_numbers) \Rightarrow (\neg (\neg r1_xxreal_0 X4 k6_numbers) \wedge \\
 & (\forall X5. (m2_subset_1 X5 k1_numbers k5_numbers) \Rightarrow (\exists X6. \\
 & (m2_subset_1 X6 k1_numbers k5_numbers) \wedge (\exists X7. (m1_subset_1 \\
 & X7 X0) \wedge ((r1_xxreal_0 X5 X6) \wedge ((X7 \in X2) \wedge (r1_xxreal_0 X4 (k18_complex1 \\
 & (k9_real_1 (k1_seq_1 (k1_seqfunc X0 k1_numbers X1 X6) X7) (k1_seq_1 \\
 & X3 X7))))))))))))))))) \\
 & \tag{1}
 \end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\
& (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 \\
& X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers)))))) \Rightarrow \\
& (\forall X2.(r2_seqfunc X0 X1 X2) \Leftrightarrow ((r1_seqfunc X0 k1_numbers X1 \\
& X2) \wedge (\exists X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 k1_numbers)))))) \wedge ((X2 = k1_relset_1 X0 X3) \wedge (\forall X4. \\
& (m1_subset_1 X4 X0) \Rightarrow ((X4 \in X2) \Rightarrow (\forall X5.(m1_subset_1 X5 k1_numbers) \Rightarrow \\
& (\neg(\neg r1_xxreal_0 X5 k6_numbers) \wedge (\forall X6.(m2_subset_1 X6 k1_numbers \\
& k5_numbers) \Rightarrow (\exists X7.(m2_subset_1 X7 k1_numbers k5_numbers) \wedge \\
& ((r1_xxreal_0 X6 X7) \wedge (r1_xxreal_0 X5 (k18_complex1 (k9_real_1 \\
& (k1_seq_1 (k1_seqfunc X0 k1_numbers X1 X7) X4) (k1_seq_1 X3 X4))))))))))))) \\
& \hspace{15em} (2)
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\
& (v1_funct_2 X1 k5_numbers (k4_partfun1 X0 k1_numbers)) \wedge (m1_subset_1 \\
& X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k4_partfun1 X0 k1_numbers)))))) \Rightarrow \\
& (\forall X2.(r3_seqfunc X0 X1 X2) \Rightarrow (r2_seqfunc X0 X1 X2))
\end{aligned}$$