

t23_rearran1

(TMFd2uLLWGoZHpP5CWsKyb7VSKCgRWLtFmM)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ 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 $k1_numbers : \iota$ be given. Let $v1_rearran1 : \iota \Rightarrow o$ be given. Let $v2_rearran1 : \iota \Rightarrow o$ be given. Let $v3_rearran1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $k1_rvsum_1 : \iota \Rightarrow \iota$ be given. Let $k4_rearran1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k20_rfunct_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rearran1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_rearran1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_rfunct_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_rfunct_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_rfunct_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rfinseq : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v1_xboole_0 X1) \wedge (v1_finset_1 X1)) \Rightarrow (\forall X2.((v1_funct_1 \\ & X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow \\ & (\forall X3.((v1_rearran1 X3) \wedge ((v2_rearran1 X3) \wedge ((v3_rearran1 \\ & X3 (k1_zfmisc_1 X1)) \wedge (m2_finseq_1 X3 (k1_zfmisc_1 X1)))))) \Rightarrow ((\\ & (v1_partfun1 X2 X0) \wedge (k5_card_1 X1 = k5_card_1 X0)) \Rightarrow (k1_rvsum_1 \\ & (k3_rearran1 X0 X1 X3 X2) = k1_rvsum_1 (k20_rfunct_3 X0 X2 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)) \wedge \\ & ((v1_rearran1 X1) \wedge ((v2_rearran1 X1) \wedge ((v3_rearran1 X1 (k1_zfmisc_1 \\ & X0)) \wedge (m1_finseq_1 X1 (k1_zfmisc_1 X0)))))) \Rightarrow ((v1_rearran1 (k2_rearran1 \\ & X0 X1)) \wedge ((v2_rearran1 (k2_rearran1 X0 X1)) \wedge ((v3_rearran1 (k2_rearran1 \\ & X0 X1) (k1_zfmisc_1 X0)) \wedge (m2_finseq_1 (k2_rearran1 X0 X1) (k1_zfmisc_1 \\ & X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)) \Rightarrow (\forall X1. \\
& ((\neg v1_xboole_0 X1) \wedge (v1_finset_1 X1)) \Rightarrow (\forall X2.((v1_rearran1 \\
& X2) \wedge ((v2_rearran1 X2) \wedge ((v3_rearran1 X2 (k1_zfmisc_1 X1)) \wedge (m2_finseq_1 \\
& X2 (k1_zfmisc_1 X1)))))) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 \\
& X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow (k4_rearran1 \\
& X0 X1 X2 X3 = k14_rfunct_3 X1 (k16_rfunct_3 X1 (k15_rfunct_3 X1 (k2_rearran1 \\
& X1 X2)) (k3_rfinseq (k20_rfunct_3 X0 X3 X0))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)) \Rightarrow (\forall X1. \\
& ((\neg v1_xboole_0 X1) \wedge (v1_finset_1 X1)) \Rightarrow (\forall X2.((v1_rearran1 \\
& X2) \wedge ((v2_rearran1 X2) \wedge ((v3_rearran1 X2 (k1_zfmisc_1 X1)) \wedge (m2_finseq_1 \\
& X2 (k1_zfmisc_1 X1)))))) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 \\
& X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow (k3_rearran1 \\
& X0 X1 X2 X3 = k14_rfunct_3 X1 (k16_rfunct_3 X1 (k15_rfunct_3 X1 X2) \\
& (k3_rfinseq (k20_rfunct_3 X0 X3 X0))))))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)) \Rightarrow (\forall X1. \\
& ((\neg v1_xboole_0 X1) \wedge (v1_finset_1 X1)) \Rightarrow (\forall X2.((v1_funct_1 \\
& X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow \\
& (\forall X3.((v1_rearran1 X3) \wedge ((v2_rearran1 X3) \wedge ((v3_rearran1 \\
& X3 (k1_zfmisc_1 X1)) \wedge (m2_finseq_1 X3 (k1_zfmisc_1 X1)))))) \Rightarrow ((\\
& (v1_partfun1 X2 X0) \wedge (k5_card_1 X1 = k5_card_1 X0)) \Rightarrow (k1_rvsum_1 \\
& (k4_rearran1 X0 X1 X3 X2) = k1_rvsum_1 (k20_rfunct_3 X0 X2 X0))))))
\end{aligned}$$