

t36_rearran1

(TMaXeQzrrnr1DerfHgTZ9MecK9ubYMAiq6Co)

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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 $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k20_rfunct_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_rearran1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k3_rearran1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_classes1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k21_rfunct_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)) \Rightarrow (\forall X1. \\
 & ((\neg v1_xboole_0 X1) \wedge (v1_finset_1 X1)) \Rightarrow (\forall X2.((v1_funct_1 \\
 & X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow \\
 & (\forall X3.((v1_rearran1 X3) \wedge ((v2_rearran1 X3) \wedge ((v3_rearran1 \\
 & X3 (k1_zfmisc_1 X1)) \wedge (m2_finseq_1 X3 (k1_zfmisc_1 X1)))))) \Rightarrow ((\\
 & (v1_partfun1 X2 X0) \wedge (k5_card_1 X0 = k5_card_1 X1)) \Rightarrow ((k3_finseq_1 \\
 & (k20_rfunct_3 X1 (k3_rearran1 X0 X1 X3 X2) X1) = k5_card_1 X1) \wedge (r1_xxreal_0 \\
 & np_1 (k3_finseq_1 (k20_rfunct_3 X1 (k3_rearran1 X0 X1 X3 X2) X1)))))) \\
 & \hspace{15em} (1)
 \end{aligned}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)) \Rightarrow (\forall X1. \\
 & ((\neg v1_xboole_0 X1) \wedge (v1_finset_1 X1)) \Rightarrow (\forall X2.((v1_funct_1 \\
 & X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow \\
 & (\forall X3.((v1_rearran1 X3) \wedge ((v2_rearran1 X3) \wedge ((v3_rearran1 \\
 & X3 (k1_zfmisc_1 X1)) \wedge (m2_finseq_1 X3 (k1_zfmisc_1 X1)))))) \Rightarrow ((\\
 & (v1_partfun1 X2 X0) \wedge (k5_card_1 X1 = k5_card_1 X0)) \Rightarrow ((r2_classes1 \\
 & (k4_rearran1 X0 X1 X3 X2) (k3_rearran1 X0 X1 X3 X2)) \wedge ((k20_rfunct_3 \\
 & X1 (k4_rearran1 X0 X1 X3 X2) X1 = k20_rfunct_3 X1 (k3_rearran1 X0 X1 \\
 & X3 X2) X1) \wedge (k21_rfunct_3 X1 (k4_rearran1 X0 X1 X3 X2) X1 = k21_rfunct_3 \\
 & X1 (k3_rearran1 X0 X1 X3 X2) X1)))))) \\
 & \hspace{15em} (2)
 \end{aligned}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v1_xboole_0 X1) \wedge (v1_finset_1 X1)) \Rightarrow (\forall X2.((v1_funct_1 \\ & X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow \\ & (\forall X3.((v1_rearran1 X3) \wedge ((v2_rearran1 X3) \wedge ((v3_rearran1 \\ & X3 (k1_zfmisc_1 X1)) \wedge (m2_finseq_1 X3 (k1_zfmisc_1 X1)))))) \Rightarrow ((\\ & (v1_partfun1 X2 X0) \wedge (k5_card_1 X0 = k5_card_1 X1)) \Rightarrow ((k3_finseq_1 \\ & (k20_rfunct_3 X1 (k4_rearran1 X0 X1 X3 X2) X1) = k5_card_1 X1) \wedge (r1_xxreal_0 \\ & np_1 (k3_finseq_1 (k20_rfunct_3 X1 (k4_rearran1 X0 X1 X3 X2) X1)))))) \end{aligned}$$