

t28_rearran1
(TMKV2sBBZtEzDeUC2188qVxCdAEcrs1rzPt)

October 27, 2020

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 $r2_classes1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_rearran1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rearran1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k20_rfunct_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k21_rfunct_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v8_valued_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.((\\ v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge \\ (v1_funct_1 X2)) \Rightarrow (((r2_classes1 X0 X1) \wedge (r2_classes1 X0 X2)) \Rightarrow \\ (r2_classes1 X1 X2)))) \end{aligned} \quad (1)$$

Assume the following.

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

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)) \Rightarrow (\forall X1. \\
& ((\neg v1_xboole_0 X1) \wedge (v1_finset_1 X1)) \Rightarrow (\forall X2.((v1_funct_1 \\
& X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow \\
& (\forall X3.((v1_rearran1 X3) \wedge ((v2_rearran1 X3) \wedge ((v3_rearran1 \\
& X3 (k1_zfmisc_1 X1)) \wedge (m2_finseq_1 X3 (k1_zfmisc_1 X1)))))) \Rightarrow ((\\
& (v1_partfun1 X2 X0) \wedge (k5_card_1 X1 = k5_card_1 X0)) \Rightarrow (k20_rfunct_3 \\
& X1 (k4_rearran1 X0 X1 X3 X2) X1 = k20_rfunct_3 X0 X2 X0))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)) \Rightarrow (\forall X1. \\
& ((\neg v1_xboole_0 X1) \wedge (v1_finset_1 X1)) \Rightarrow (\forall X2.((v1_funct_1 \\
& X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow \\
& (\forall X3.((v1_rearran1 X3) \wedge ((v2_rearran1 X3) \wedge ((v3_rearran1 \\
& X3 (k1_zfmisc_1 X1)) \wedge (m2_finseq_1 X3 (k1_zfmisc_1 X1)))))) \Rightarrow ((\\
& (v1_partfun1 X2 X0) \wedge (k5_card_1 X1 = k5_card_1 X0)) \Rightarrow (r2_classes1 \\
& (k4_rearran1 X0 X1 X3 X2) (k20_rfunct_3 X0 X2 X0))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)) \Rightarrow (\forall X1. \\
& ((\neg v1_xboole_0 X1) \wedge (v1_finset_1 X1)) \Rightarrow (\forall X2.((v1_funct_1 \\
& X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow \\
& (\forall X3.((v1_rearran1 X3) \wedge ((v2_rearran1 X3) \wedge ((v3_rearran1 \\
& X3 (k1_zfmisc_1 X1)) \wedge (m2_finseq_1 X3 (k1_zfmisc_1 X1)))))) \Rightarrow ((\\
& (v1_partfun1 X2 X0) \wedge (k5_card_1 X1 = k5_card_1 X0)) \Rightarrow (k21_rfunct_3 \\
& X1 (k3_rearran1 X0 X1 X3 X2) X1 = k21_rfunct_3 X0 X2 X0))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)) \Rightarrow (\forall X1. \\
& ((\neg v1_xboole_0 X1) \wedge (v1_finset_1 X1)) \Rightarrow (\forall X2.((v1_funct_1 \\
& X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow \\
& (\forall X3.((v1_rearran1 X3) \wedge ((v2_rearran1 X3) \wedge ((v3_rearran1 \\
& X3 (k1_zfmisc_1 X1)) \wedge (m2_finseq_1 X3 (k1_zfmisc_1 X1)))))) \Rightarrow ((\\
& (v1_partfun1 X2 X0) \wedge (k5_card_1 X1 = k5_card_1 X0)) \Rightarrow (k20_rfunct_3 \\
& X1 (k3_rearran1 X0 X1 X3 X2) X1 = k20_rfunct_3 X0 X2 X0))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)) \Rightarrow (\forall X1. \\
& ((\neg v1_xboole_0 X1) \wedge (v1_finset_1 X1)) \Rightarrow (\forall X2.((v1_funct_1 \\
& X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow \\
& (\forall X3.((v1_rearran1 X3) \wedge ((v2_rearran1 X3) \wedge ((v3_rearran1 \\
& X3 (k1_zfmisc_1 X1)) \wedge (m2_finseq_1 X3 (k1_zfmisc_1 X1)))))) \Rightarrow ((\\
& (v1_partfun1 X2 X0) \wedge (k5_card_1 X1 = k5_card_1 X0)) \Rightarrow (r2_classes1 \\
& (k3_rearran1 X0 X1 X3 X2) (k20_rfunct_3 X0 X2 X0))))))
\end{aligned} \tag{7}$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge (v1_relat_1 X1)) \Rightarrow ((r2_classes1 X0 X1) \Rightarrow (r2_classes1 X1 X0)) \tag{8}$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \tag{9}$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Rightarrow ((v1_funct_1 X1) \wedge ((v1_finseq_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))))) \tag{10}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v1_xboole_0 \\
& X0) \wedge (v1_finset_1 X0)) \wedge (((\neg v1_xboole_0 X1) \wedge (v1_finset_1 X1)) \wedge \\
& (((v1_rearran1 X2) \wedge ((v2_rearran1 X2) \wedge ((v3_rearran1 X2 (k1_zfmisc_1 \\
& X1)) \wedge (m1_finseq_1 X2 (k1_zfmisc_1 X1)))))) \wedge ((v1_funct_1 X3) \wedge \\
& (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))))) \Rightarrow \\
& ((v1_funct_1 (k4_rearran1 X0 X1 X2 X3)) \wedge (m1_subset_1 (k4_rearran1 \\
& X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 X1 k1_numbers))))))
\end{aligned} \tag{11}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v1_xboole_0 \\
& X0) \wedge (v1_finset_1 X0)) \wedge (((\neg v1_xboole_0 X1) \wedge (v1_finset_1 X1)) \wedge \\
& (((v1_rearran1 X2) \wedge ((v2_rearran1 X2) \wedge ((v3_rearran1 X2 (k1_zfmisc_1 \\
& X1)) \wedge (m1_finseq_1 X2 (k1_zfmisc_1 X1)))))) \wedge ((v1_funct_1 X3) \wedge \\
& (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))))) \Rightarrow \\
& ((v1_funct_1 (k3_rearran1 X0 X1 X2 X3)) \wedge (m1_subset_1 (k3_rearran1 \\
& X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 X1 k1_numbers))))))
\end{aligned} \tag{12}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 \\ & X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers))))))\Rightarrow \\ & ((v8_valued_0 (k20_rfunct_3 X0 X1 X2))\wedge(m2_finseq_1 (k20_rfunct_3 \\ & X0 X1 X2) k1_numbers)) \end{aligned} \tag{13}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \end{aligned} \tag{14}$$

Theorem 1

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