

t22_zf_fund1 (TMXxdX- uXi1XFQqebXr6bgHvMyXVBWZfLtrY)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_classes2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_zf_lang : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v8_zf_fund1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_zf_fund1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zf_lang : \iota$ be given. Let $k8_zf_lang : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_zf_lang : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_zf_lang : \iota \Rightarrow \iota$ be given. Let $k4_zf_lang : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_zf_lang : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_classes2 X0)) \Rightarrow (\forall X1. \\
& ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0))) \Rightarrow (\forall X2. \\
& (\neg v1_xboole_0 X2) \Rightarrow (((v8_zf_fund1 X1 X0) \wedge (X2 \in X1)) \Rightarrow (\forall X3. \\
& ((v1_zf_lang X3) \wedge (m2_finseq_1 X3 k5_numbers)) \Rightarrow (\forall X4. (\\
& m2_subset_1 X4 k5_numbers k1_zf_lang) \Rightarrow ((k5_zf_fund1 X3 X2 \in X1) \Rightarrow \\
& (k5_zf_fund1 (k8_zf_lang X4 X3) X2 \in X1))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_classes2 X0)) \Rightarrow (\forall X1. \\
& ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0))) \Rightarrow (\forall X2. \\
& (\neg v1_xboole_0 X2) \Rightarrow (((v8_zf_fund1 X1 X0) \wedge (X2 \in X1)) \Rightarrow (\forall X3. \\
& ((v1_zf_lang X3) \wedge (m2_finseq_1 X3 k5_numbers)) \Rightarrow (\forall X4. (\\
& (v1_zf_lang X4) \wedge (m2_finseq_1 X4 k5_numbers)) \Rightarrow (((k5_zf_fund1 \\
& X3 X2 \in X1) \wedge (k5_zf_fund1 X4 X2 \in X1)) \Rightarrow (k5_zf_fund1 (k7_zf_lang X3 \\
& X4) X2 \in X1))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_classes2 X0)) \Rightarrow (\forall X1. \\
& ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0))) \Rightarrow (\forall X2. \\
& (\neg v1_xboole_0 X2) \Rightarrow (((v8_zf_fund1 X1 X0) \wedge (X2 \in X1)) \Rightarrow (\forall X3. \\
& ((v1_zf_lang X3) \wedge (m2_finseq_1 X3 k5_numbers)) \Rightarrow ((k5_zf_fund1 \\
& X3 X2 \in X1) \Rightarrow (k5_zf_fund1 (k6_zf_lang X3) X2 \in X1))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_classes2 X0)) \Rightarrow (\forall X1. \\
& ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0))) \Rightarrow (\forall X2. \\
& (\neg v1_xboole_0 X2) \Rightarrow (((v8_zf_fund1 X1 X0) \wedge (X2 \in X1)) \Rightarrow (\forall X3. \\
& (m2_subset_1 X3 k5_numbers k1_zf_lang) \Rightarrow (\forall X4.(m2_subset_1 \\
& X4 k5_numbers k1_zf_lang) \Rightarrow ((k5_zf_fund1 (k4_zf_lang X3 X4) X2 \in \\
& X1) \wedge (k5_zf_fund1 (k5_zf_lang X3 X4) X2 \in X1))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0 : \iota \Rightarrow o. ((\forall X1.(m2_subset_1 X1 k5_numbers \\
& k1_zf_lang) \Rightarrow (\forall X2.(m2_subset_1 X2 k5_numbers k1_zf_lang) \Rightarrow \\
& ((X0 (k4_zf_lang X1 X2)) \wedge (X0 (k5_zf_lang X1 X2)))))) \wedge ((\forall X1. \\
& ((v1_zf_lang X1) \wedge (m2_finseq_1 X1 k5_numbers)) \Rightarrow ((X0 X1) \Rightarrow (X0 (\\
& k6_zf_lang X1)))))) \wedge ((\forall X1.((v1_zf_lang X1) \wedge (m2_finseq_1 \\
& X1 k5_numbers)) \Rightarrow (\forall X2.((v1_zf_lang X2) \wedge (m2_finseq_1 X2 \\
& k5_numbers)) \Rightarrow (((X0 X1) \wedge (X0 X2)) \Rightarrow (X0 (k7_zf_lang X1 X2)))))) \wedge (\\
& \forall X1.((v1_zf_lang X1) \wedge (m2_finseq_1 X1 k5_numbers)) \Rightarrow (\forall X2. \\
& (m2_subset_1 X2 k5_numbers k1_zf_lang) \Rightarrow ((X0 X1) \Rightarrow (X0 (k8_zf_lang \\
& X2 X1)))))) \Rightarrow (\forall X1.((v1_zf_lang X1) \wedge (m2_finseq_1 X1 k5_numbers)) \Rightarrow \\
& (X0 X1))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_classes2 X0)) \Rightarrow (\forall X1. \\
& ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0))) \Rightarrow (\forall X2. \\
& (\neg v1_xboole_0 X2) \Rightarrow (\forall X3.((v1_zf_lang X3) \wedge (m2_finseq_1 \\
& X3 k5_numbers)) \Rightarrow (((v8_zf_fund1 X1 X0) \wedge (X2 \in X1)) \Rightarrow (k5_zf_fund1 \\
& X3 X2 \in X1))))))
\end{aligned}$$