

t22_filerec1 (TMPcVi-
UQwSqUzr5nVBYtZBVgCegrzAjCWUq)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_filerec1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k7_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r5_finseq_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_rfinseq : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k4_finseq_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $k1_finseq_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $k5_finseq_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_finseq_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_finseq_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ & ((k7_finseq_1 X0 k1_xboole_0 = X0) \wedge (k7_finseq_1 k1_xboole_0 X0 = \\ & \quad X0)) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m2_finseq_1 X1 X0) \Rightarrow (r5_finseq_8 X0 X1 X1)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0) \Rightarrow (k2_rfinseq X0 k6_numbers X1 = X1) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m2_finseq_1 X1 X0) \Rightarrow \\ & ((k4_finseq_8 X0 (k6_finseq_1 X0) X1 = k6_finseq_1 X0) \wedge (k4_finseq_8 \\ & \quad X0 X1 (k6_finseq_1 X0) = k6_finseq_1 X0))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.r1_tarSKI X0 X0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (7)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (8)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (k3_finseq_1 X0 = k1_card_1 X0) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_finseq_1 X1 X0) \wedge (m1_finseq_1 X2 X0)) \Rightarrow (k1_finseq_8 X0 X1 X2 = k7_finseq_1 X1 X2) \quad (10)$$

Assume the following.

$$\forall X0.v1_xboole_0 (k6_finseq_1 X0) \quad (11)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (12)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow ((v1_xboole_0 (k1_card_1 X0)) \wedge (v1_card_1 (k1_card_1 X0))) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0) \Rightarrow ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \quad (14)$$

Assume the following.

$$\forall X0.m2_finseq_1 (k6_finseq_1 X0) X0 \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m2_finseq_1 X1 X0) \Rightarrow \\ & (\forall X2.(m2_finseq_1 X2 X0) \Rightarrow (k5_finseq_8 X0 X1 X2 = k1_finseq_8 \\ & X0 X1 (k2_rfinseq X0 (k3_finseq_1 (k4_finseq_8 X0 X1 X2)) X2)))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_finseq_1 X1 X0) \Rightarrow \\
& (\forall X2.(m1_finseq_1 X2 X0) \Rightarrow (\forall X3.(m1_finseq_1 X3 X0) \Rightarrow \\
& ((r1_filerec1 X0 X1 X2 X3) \Leftrightarrow (((r2_finseq_8 X0 (k9_finseq_8 X0 X2 \\
& X3) (k1_finseq_8 X0 X3 X1) \text{ np_} \neg 1) \vee (r1_tarski X1 (k9_finseq_8 X0 \\
& X2 X3))) \wedge (r5_finseq_8 X0 X1 X3))))))
\end{aligned} \tag{17}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m2_finseq_1 X1 X0) \Rightarrow \\
& (\forall X2.(m2_finseq_1 X2 X0) \Rightarrow (k9_finseq_8 X0 X1 X2 = k5_finseq_8 \\
& X0 X1 X2)))
\end{aligned} \tag{18}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m2_finseq_1 X1 X0) \Rightarrow \\
& (r1_filerec1 X0 X1 (k6_finseq_1 X0) X1))
\end{aligned}$$