t25_chain_1 (TMNkav7c7URMpbW5sXdvKyodYsQE4p5UG3n)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $k5\_numbers : \iota$ be given. Let $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_euclid : \iota \Rightarrow \iota$ be given. Let $k2\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_chain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0) \wedge (m2\_subset\_1\ X0\ k1\_numbers\ k5\_numbers)) \Rightarrow (\forall X1.(m2\_finseq\_2\ X1\ k1\_numbers\ (k1\_euclid\ X0)) \Rightarrow (\forall X2.(m2\_finseq\_2\ X2\ k1\_numbers\ (k1\_euclid\ X0)) \Rightarrow (\forall X3.(m2\_finseq\_2\ X3\ k1\_numbers\ (k1\_euclid\ X0)) \Rightarrow ((X1 \in k3\_chain\_1\ X0\ X2\ X3) \Leftrightarrow (\neg(\neg \forall X4.(m2\_subset\_1\ X4\ k5\_numbers\ (k2\_finseq\_1\ X0)) \Rightarrow ((r1\_xxreal\_0\ (k1\_seq\_1\ X2\ X4)\ (k1\_seq\_1\ X1\ X4)) \wedge (r1\_xxreal\_0\ (k1\_seq\_1\ X1\ X4)\ (k1\_seq\_1\ X3\ X4)))) \wedge (\forall X4.(m2\_subset\_1\ X4\ k5\_numbers\ (k2\_finseq\_1\ X0)) \Rightarrow (\neg(\neg r1\_xxreal\_0\ (k1\_seq\_1\ X2\ X4)\ (k1\_seq\_1\ X3\ X4)) \wedge ((r1\_xxreal\_0\ (k1\_seq\_1\ X1\ X4)\ (k1\_seq\_1\ X3\ X4)) \vee (r1\_xxreal\_0\ (k1\_seq\_1\ X2\ X4)\ (k1\_seq\_1\ X1\ X4))))))))))) \tag{1}$$

Theorem 1

$$\forall X0.((\neg v1\_xboole\_0\ X0) \wedge (m2\_subset\_1\ X0\ k1\_numbers\ k5\_numbers)) \Rightarrow (\forall X1.(m2\_finseq\_2\ X1\ k1\_numbers\ (k1\_euclid\ X0)) \Rightarrow (\forall X2.(m2\_finseq\_2\ X2\ k1\_numbers\ (k1\_euclid\ X0)) \Rightarrow (\forall X3.(m2\_finseq\_2\ X3\ k1\_numbers\ (k1\_euclid\ X0)) \Rightarrow ((\neg \forall X4.(m2\_subset\_1\ X4\ k5\_numbers\ (k2\_finseq\_1\ X0)) \Rightarrow (r1\_xxreal\_0\ (k1\_seq\_1\ X2\ X4)\ (k1\_seq\_1\ X1\ X4))) \Rightarrow ((X3 \in k3\_chain\_1\ X0\ X2\ X1) \Leftrightarrow (\exists X4.(m2\_subset\_1\ X4\ k5\_numbers\ (k2\_finseq\_1\ X0)) \wedge ((\neg r1\_xxreal\_0\ (k1\_seq\_1\ X2\ X4)\ (k1\_seq\_1\ X1\ X4)) \wedge ((r1\_xxreal\_0\ (k1\_seq\_1\ X3\ X4)\ (k1\_seq\_1\ X1\ X4)) \vee (r1\_xxreal\_0\ (k1\_seq\_1\ X2\ X4)\ (k1\_seq\_1\ X3\ X4))))))))))$$