t20_catalan2 (TMFzUsBv2FR8423jssx4mFfdipSkN2J9ao9)

October 27, 2020

Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $v5\_ordinal1 : \iota \Rightarrow o$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_finset\_1 : \iota \Rightarrow o$ be given. Let $k2\_catalan2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_catalan2 : \iota \Rightarrow o$ be given. Let $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_afinsq\_2 : \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k8\_afinsq\_1 : \iota \Rightarrow \iota$ be given. Let $k7\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_numbers : \iota$ be given. Let $np\_\_1 : \iota$ be given. Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0) \wedge (v7\_ordinal1\ X1)) \Rightarrow (m1\_subset\_1\ (k2\_catalan2\ X0\ X1)\ (k1\_zfmisc\_1\ (k8\_afinsq\_1\ (k7\_domain\_1\ k5\_numbers\ k6\_numbers\ np\_\_1)))) \tag{1}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k8\_afinsq\_1\ (k7\_domain\_1\ k5\_numbers\ k6\_numbers\ np\_\_1)))) \Rightarrow ((X2 = k2\_catalan2\ X0\ X1) \Leftrightarrow (\forall X3.(X3 \in X2) \Leftrightarrow (\exists X4.((v5\_ordinal1\ X4) \wedge ((v1\_relat\_1\ X4) \wedge ((v5\_relat\_1\ X4\ k5\_numbers) \wedge ((v1\_funct\_1\ X4) \wedge (v1\_finset\_1\ X4))))) \wedge ((X4 = X3) \wedge ((v1\_catalan2\ X4) \wedge ((k1\_relset\_1\ k5\_numbers\ X4 = X0) \wedge (k7\_afinsq\_2\ X4 = X1)))))))))) \tag{2}$$

Theorem 1

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (\forall X2.((v5\_ordinal1\ X2) \wedge ((v1\_relat\_1\ X2) \wedge ((v5\_relat\_1\ X2\ k5\_numbers) \wedge ((v1\_funct\_1\ X2) \wedge (v1\_finset\_1\ X2))))) \Rightarrow ((X2 \in k2\_catalan2\ X0\ X1) \Leftrightarrow ((v1\_catalan2\ X2) \wedge ((k1\_relset\_1\ k5\_numbers\ X2 = X0) \wedge (k7\_afinsq\_2\ X2 = X1))))))$$