t12_pencil_1 (TMF4eh4GXPTWpjaq9qhwy4yxaQnfWELBvD6)

October 27, 2020

Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v13\_pencil\_1 : \iota \Rightarrow o$ be given. Let $v16\_pencil\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_pencil\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3\_card\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $v1\_zfmisc\_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge ((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ X0) \wedge ((v1\_funct\_1\ X1) \wedge ((v1\_partfun1\ X1\ X0) \wedge ((\neg v13\_pencil\_1\ X1) \wedge (v16\_pencil\_1\ X1\ X0))))))) \Rightarrow (m1\_subset\_1\ (k3\_pencil\_1\ X0\ X1)\ X0) \tag{1}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ X0) \wedge ((v1\_funct\_1\ X1) \wedge ((v1\_partfun1\ X1\ X0) \wedge ((\neg v13\_pencil\_1\ X1) \wedge (v16\_pencil\_1\ X1\ X0)))))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ X0) \Rightarrow ((X2 = k3\_pencil\_1\ X0\ X1) \Leftrightarrow (\neg v1\_zfmisc\_1\ (k1\_funct\_1\ X1\ X2))))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ X0) \wedge ((v1\_funct\_1\ X1) \wedge (v1\_partfun1\ X1\ X0)))) \Rightarrow ((v16\_pencil\_1\ X1\ X0) \Leftrightarrow (\exists X2.(m1\_subset\_1\ X2\ X0) \wedge (\forall X3.(m1\_subset\_1\ X3\ X0) \Rightarrow ((X2 \neq X3) \Rightarrow (v3\_card\_1\ (k1\_funct\_1\ X1\ X3)\ np\_\_1))))) \tag{3}$$

Assume the following.

$$\forall X0.(v3\_card\_1\ X0\ np\_\_1) \Rightarrow ((\neg v1\_xboole\_0\ X0) \wedge (v1\_zfmisc\_1\ X0)) \tag{4}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ X0) \wedge ((v1\_funct\_1\ X1) \wedge ((v1\_partfun1\ X1\ X0) \wedge ((\neg v13\_pencil\_1\ X1) \wedge (v16\_pencil\_1\ X1\ X0)))))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ X0) \Rightarrow ((X2 \neq k3\_pencil\_1\ X0\ X1) \Rightarrow (v3\_card\_1\ (k1\_funct\_1\ X1\ X2)\ np\_\_1))))$$